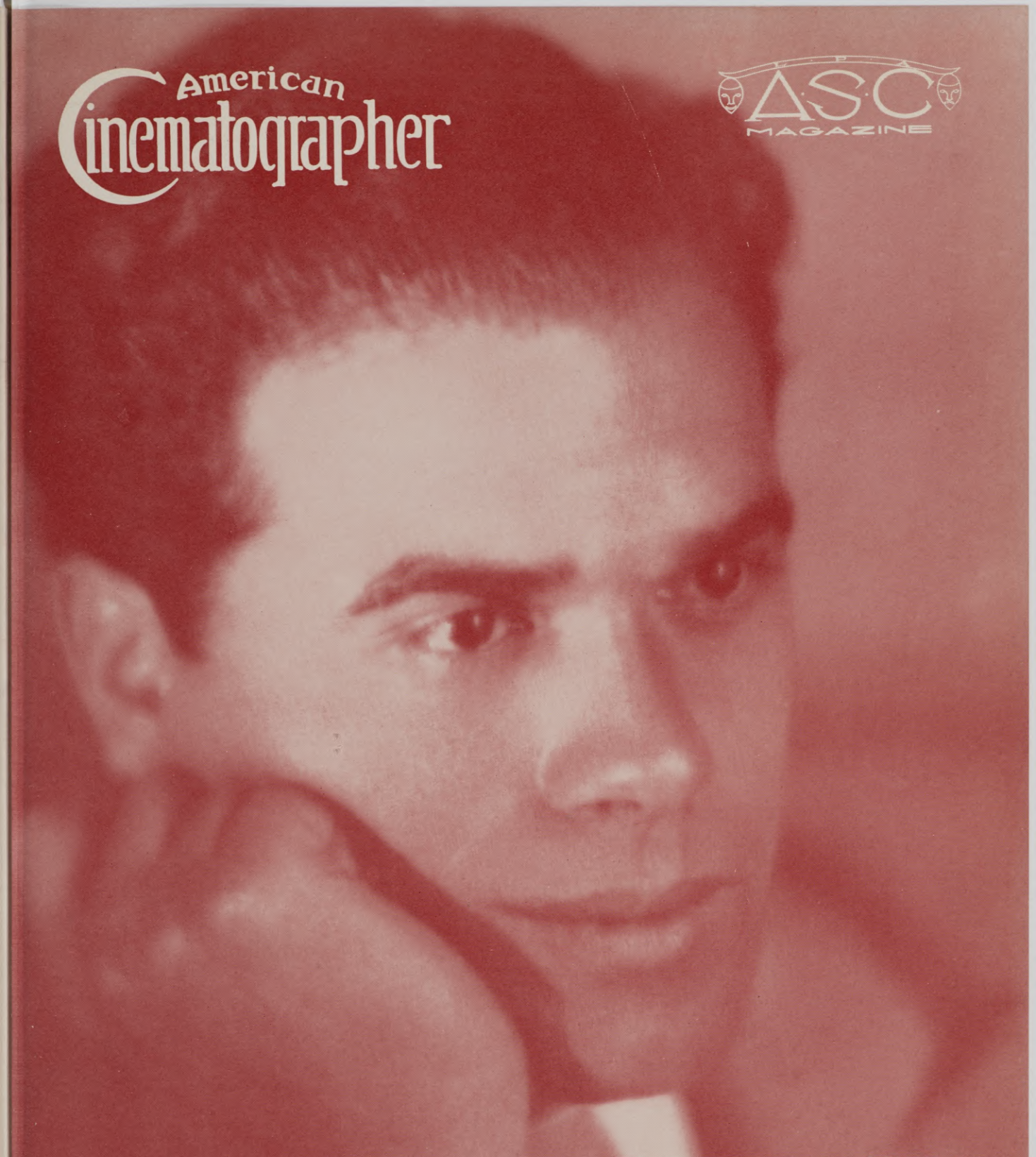
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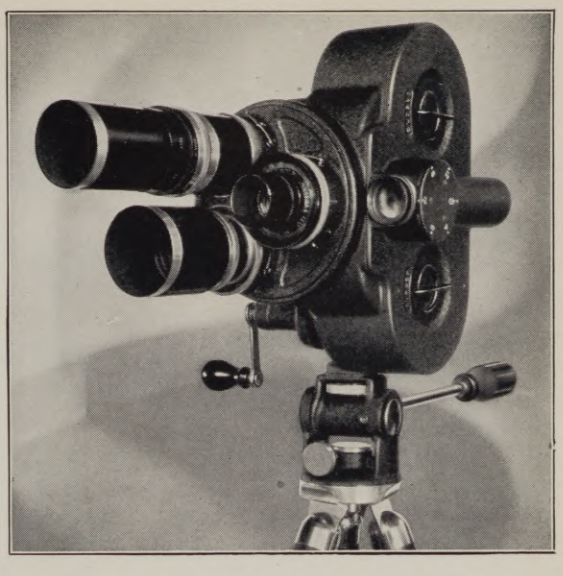
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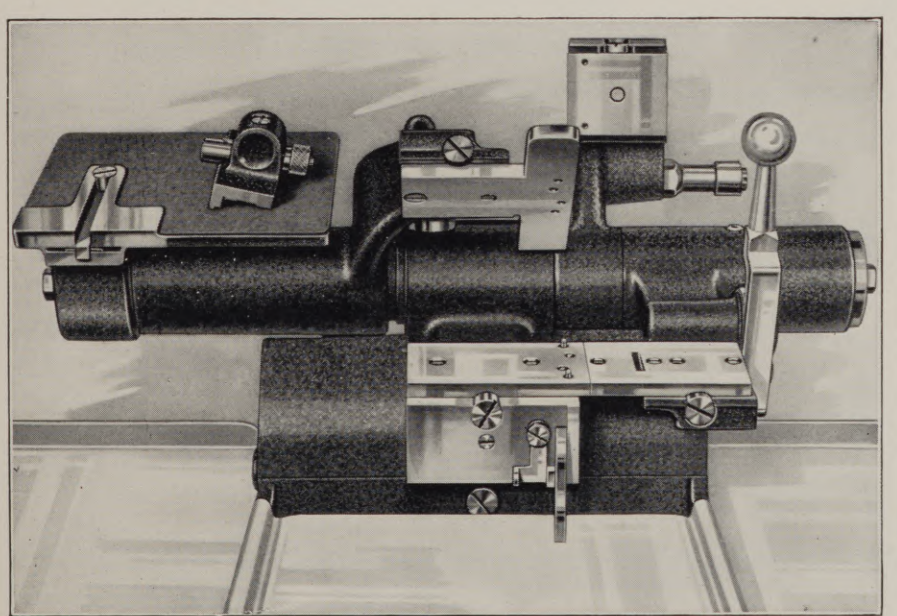
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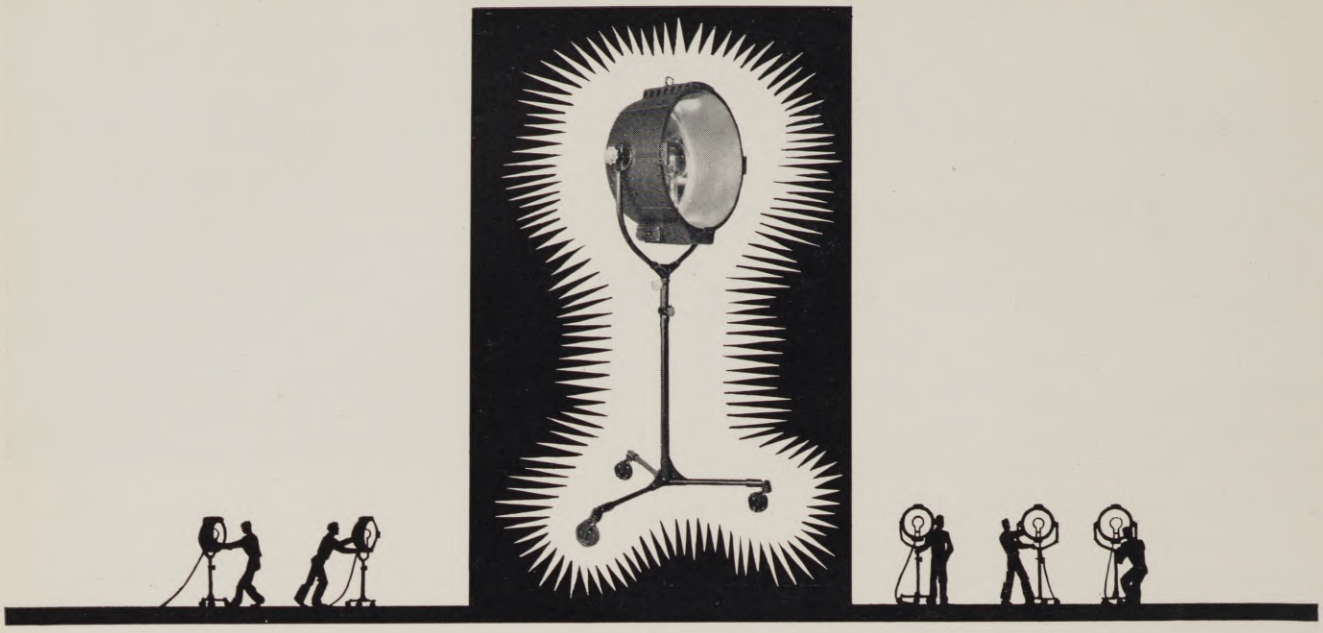
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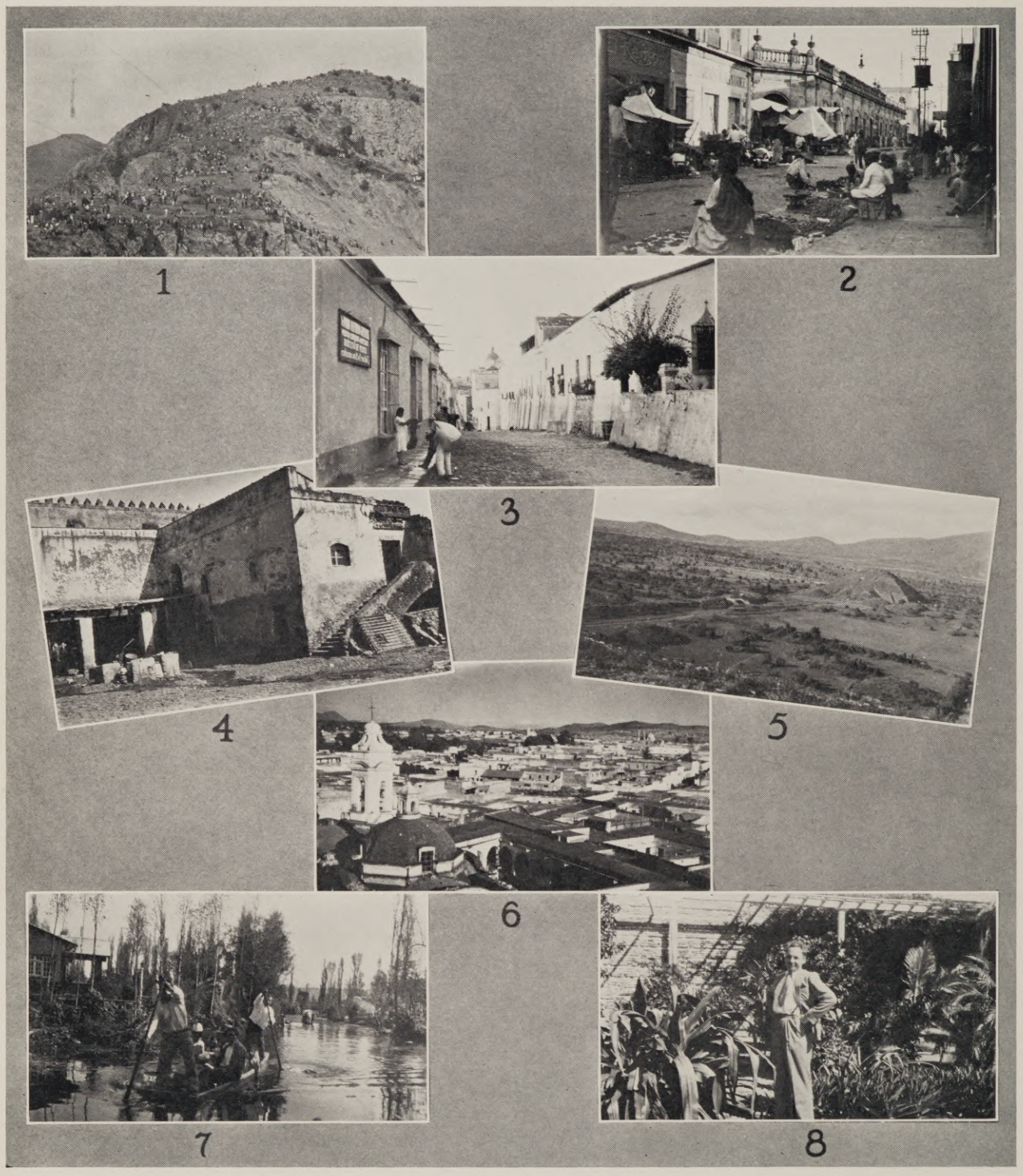
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BEAUTY SPOTS IN OLD MEXICO

SOME unusual photographs of this romantic country brought back by Mr. Mohr. 1. Some of the Pilgrims to the Shrine of Guadalupe. 2. An interesting street market. 3. A typical street in Cuenevaca. 4. Ruins of an old convent, rich in beauty. 5. The Pyramid of the Moon. 6. A roof-top view of Puebla. 7. A charming vista on a canal at Xochomilco. 8. Mr. Mohr in one of the charming gardens.

Mexico . . . the Wonderland

by **HAL MOHR**

President, the American Society of Cinematographers

TO THE ordinary United States citizen the name Mexico brings visions of revolutions in which the rattle of gunfire and the buzzing of bullets makes life a thing of more than passing excitement; of bold, bad bandits waiting behind trees to seize important looking foreigners for ransom purposes; of blood-thirsty individuals waiting to blow up railroad trains while the passengers sleep.

My job is not that of being a publicity man for Mexico, but after spending six glorious weeks in that marvelous country, I cannot keep quiet. I must shout that the world is wrong; that instead of being all the things so many people imagine, it is one of the loveliest spots that I have ever had the privilege to visit. And, as for bandits and all that rot—well, here is something to ponder over.

Mrs. Mohr and I were on our way to the station in Los Angeles at the start of our trip. As we passed a certain Los Angeles bank we noticed a big, armored truck in front of it. The truck bristled with guns. Three men, armed with wicked looking pistols stood guard on the sidewalk while several other guards carried bags of money into the bank. A crowd had gathered to watch it. The reason was because of the many bank holdups in our own peaceful community.

Now—the day we arrived in Mexico City this is what we saw: Walking down the street we noticed an old-fashioned, horse-drawn wagon stop in front of a bank. There were two men on the wagon. They both climbed down off the seat and started throwing bags onto the sidewalk. The bags were filled with money. When the load was on the sidewalk the two men each picked up a bag and walked into the bank, leaving the remainder of the money unguarded on the street. We watched this strange happening for some time. No one even stopped to look at the money bags. There were no armed guards. The money apparently was as safe as though the bags were filled with potatoes.

That is Mexico today. Quite a contrast to Chicago, say, or any of our large cities. The gunmen is an unknown quantity.

Mexico today is a country of progress. Rarely will you find a nation in which so much effort is being concentrated for the advancement of the people. And as for brigandage and revolutions; those are things of the past, and if the present administration has anything to do with it, will never be again. Every official of the country from genial and progressive President Ortiz Rubio on down is bubbling over with enthusiasm for the new order of things and a greater and more progressive Mexico.

Speaking of President Rubio brings me to one point that is an outstanding feature among the men responsible for the conduct of Mexican affairs. That feature is the hospitality and unusual friendliness shown the foreign visitor who is in Mexico either for real, honest business reasons, or for a friendly visit. None of these leaders hide behind a stone wall of undersecretaries, but, rather, they are much more easy of access than many petty officials of city or county organizations in our own country. As long as they know that you are not in Mexico for the purpose of "putting something over on them," that you are honest and decent, the hospitality of the nation is yours.

Contrary to the cries of certain individuals who continually try to stir up bitter feeling between Mexicans and citizens of our own country, there is no feeling against us. Instead, it seemed to me from my contact with Mexican officials, that the United States is the model which Mexico is following in its progressive development along educational and industrial lines. And great strides are being made in the matter of education. Schools and colleges are being provided, and compulsory education is doing much to raise the general standard among the lower classes. Hygiene is being given particular

(Continued on Page 25)



A typical bit of Mexican scenic beauty



Mrs. Mohr in one of the charming gardens

The Fate of the Iodide in the Development of Bromo-Iodide Emulsions

by **M. L. DUNDON** and **A. E. BALLARD**
Communication No. 417 from the Kodak Research Laboratories

IT IS commonly known that the high-speed negative emulsions contain silver bromo-iodide in which the iodide content may be from one to ten per cent of the total silver salt. It appears, however, that the simple question of what happens to the iodide on development has not been given the attention which it deserves. A search of the literature showed that Liesegang[1] has already suggested that the iodide in an emulsion may be quantitatively significant in its effect on the course of development because the iodide released would convert adjacent silver bromide into silver iodide. The purpose of this communication is to direct attention to the probable behaviour of the iodide during development and to show that such a behavior is in accord with experimental data. It is felt that this picture of the behavior of the iodide will be of value in interpreting certain development phenomena.

It has been shown by Wilsey[2] that the iodide atoms in bromo-iodide emulsions of the ordinary type are substituted for bromide atoms in the cubic lattice of the silver bromide crystal, thereby producing a strained condition which, as suggested by Trivelli,[3] probably makes it more easily ruptured than pure bromide. Baldsiefen, Sease, and Renwick[4] found that in a given emulsion the larger crystals contained a higher percentage of iodide than the smaller ones. As the larger crystals are usually more sensitive, and are exposed and developed first, if such crystals develop completely, their iodide must be liberated along with the bromide in the form of a soluble iodide salt. Renwick and Sease[5] also found that the ripening process brings about gradual changes in the distribution of iodide in the individual grains, and stated that emulsified silver iodide added before mixing gives the same result as potassium iodide.

Because of the fact that silver iodide is less soluble than the bromide, the iodide is precipitated first from a mixture of the two halides. Further, if silver bromide is treated with a solution of soluble iodide, the bromide is rapidly replaced and silver iodide is formed. If, for example, a positive film is immersed in a one per cent solution of potassium iodide, within a minute the silver bromide is converted very largely to silver iodide.

When potassium iodide is added to a developer it diminishes fog very greatly, but only a small quantity remains in the developer after use, as it is rapidly taken out by developing film. On the other hand, Southworth[6] has stated that a very small quantity of potassium iodide is effective in diminishing fog in strong developers, and that the decreased fogging action of used developers can be explained largely by the effect of the minute quantity of iodide taken from the emulsion during development. A small amount of iodide has also been used to prevent the development of abrasion marks, as the surface layers become iodised so quickly that surface development is prevented.

Probable Fate of the Iodide

With these facts in mind we can state the probable behavior of the iodide to be as follows. When a crystal of silver bromo-iodide develops, both the iodide and the bromide go into solution as the dissociated ions to form the alkali salt. In this form the bromide diffuses through the film, and most of it gets out into the developer and remains there. The iodide, however, immediately replaces the bromide in any undeveloped grains in its vicinity, forming a deposit of silver iodide on their surface and freeing an equivalent quantity of bromide. Thus, those grains which have already started to develop continue, and develop to completion because of their large and growing nucleus. Undeveloped grains, however, especially those in which no development is taking place, are coated with iodide to an extent determined largely by the percentage of iodide in the original emulsion and by the number of available undeveloped grains on which the iodide may be deposited.

It seems logical that if single iodide atoms are interspersed among the bromide atoms in the crystal lattice, when development occurs such iodide atoms would be liberated along with the bromide. Once liberated, and in the form of iodide ions, they would not re-combine with silver to form silver iodide in the reducing environment of a developer. Further, they would be as free to migrate as the bromide ions and would be removed from solution only by substitution for bromide in a solid particle of unreduced silver bromide. With sufficient exposure and full development, if all the grains develop completely, the iodide must diffuse out into the developer or into an adjacent area of less exposure.

Experimental Data

The fact that most of the iodide in the original emulsion remains in the undeveloped portion when exposure is not complete was demonstrated as follows. Two pieces of film were carefully flashed and developed in caustic hydroquinone developer for five minutes. The flash exposure was so adjusted that at least two-thirds of the original emulsion was exposed and developed. Without fixing, the negative silver was dissolved by treatment with an acid solution of potassium permanganate and the manganese dioxide cleared out with sodium bisulphite. The residual emulsion on each film was then analyzed for the percentage of bromide and iodide, with the results given in Table I:

TABLE I

Sample	Emulsion	Treatment	Developable Density	Percent Iodide
1.	Type A	Untreated	4.0	4.0
2.	Type A	Residual emulsion after development	1.02	17.8
3.	Type B	Untreated	3.80	1.25
4.	Type B	Residual emulsion after development	1.30	3.70

Thus it was established that after removing part of the available silver by exposure and development, the residual emulsion contained a much greater percentage of iodide than it did originally. In fact, it appeared that nearly all the iodide in the original film remained in that part of the emulsion which was left. The question still remained as to whether the iodide in the residual emulsion was there because the bromide had developed out, leaving a skeleton of silver iodide from the original bromo-iodide crystals, or whether the iodide had been devel-

(Continued on Page 22)

Eight Years Pioneering in China

by **W. H. JANSEN**
Industrial and Educational Films, Inc., Shanghai, China

FEW of us realize how little we know about any country other than our own, until after we have spent a considerable number of years in that country, and it is only by contact and experience among its inhabitants that one can grasp an idea of the actual conditions regarding the customs and manner of living of its people. No amount of printed news without picture illustrations, no matter how vivid the description, can convey to the imagination the true conditions as they appear through personal contact, and that which we see through our own eyes.

Next in value or importance to our eyes is that which we see through the lense of a camera, and brought to us in the form of a picture, especially the motion picture, bringing actual life before us, which has done more for us in the field of education than any other known device. America's foremost position in the world, one might venture to say, has been largely due to the advantage of having the world's wonders brought to her screens. The quoting of an old Chinese proverb: "one picture being worth 10,000 words" is proved by the following story of my eight years pioneering the motion picture industry in China.

Arriving in Shanghai in 1922, the motion picture activities, in the city termed the "Paris of the Orient," with a population of about one million, boasted in those days of about three "movies," and just a scattered few ramshackle galvanized iron affairs, way below the standard of our old-time converted store "nickelodeons" existed—in fact, they lacked the megaphone barker and old hurdy-gurdy piano in the lobby, and with the dim lights and a few hand painted posters made them very dismal looking places. The clientele of not more than about five of this handful of movie houses was made up mostly by Europeans or as termed in China "foreigners." The first two front rows of seats were set aside for the Chinese at 20 cents "small money," which was equivalent at that time to about 7½ cents in American money, and were rarely ever filled.

The pictures shown were mostly either "duped" copies or were picked up on the San Francisco market at about from $5.00 to $10.00 a reel, and many of them were resurrected from the "film morgues." Most of them had from one-third to a half of the story missing, so this will give you an idea of the average picture we had in "them good old days." So far as this story goes, it seems like history repeating itself, and brings us back to the beginning of pictures in America, but the difference being that this story is dealing with the conditions as recent as only eight years ago, whereas these so-called "good old days" existed in America as far back as twenty years ago.

Searching around for an opportunity in this field, I found that there had been only one previous attempt at making motion pictures in China, the effort being a series of 200 foot lengths of funeral and marriage processions and such other phases of native life.

Not being any too pleased with the prospects of this field, I was just on the point of making my departure for more fertile soil, when I received a note requesting my presence at the office of the British-American Tobacco Company. The next morning when I had my interview with one of the directors of this company, I was asked whether I would consider remaining in China if a satisfactory offer were made. Having already bought my ticket for passage to Manila, I was in a rather undecided mood, and more so when I was asked whether I could make cartoons. Up to this time I had never given a single thought to a cartoon, or how it was made, excepting the enjoyment I remembered getting out of the old Mutt and Jeff series I used to see when I was in South America. After a rather lengthy discussion of the matter, I accepted the offer made to me, as I thought I could at least try anything once.

Without knowing the first thing about cartoon making, I found space in a garage, setting up my equipment I carried with me on my tour through India and Africa and on my general globe trotting, and proceeded to solve the mystery of mechanical action on the screen. Three months was the time agreed upon to produce my first cartoon. Well, it is too long a story to relate all the details of how I solved the mystery of this intricate work, but I can assure you that it is a true saying that there are more crazy people outside of asylums than there are inmates. However, it will ever remain a pleasant memory to me to have seen the enthusiasm shown by everyone concerned upon the showing of what I then considered my masterpiece, the subject of which was a donkey wagging its ears and refusing to move until it smelled the smoke of a cigarette its Chinese leader lit; the smoke spelling the name of the cigarette in the air, making the donkey roar with laughter, the motto being "Contentment for the smoker—contentment for the ass."

The exhibition of the donkey cartoon being declared a roaring success, and would meet with the company's cigarette advertising needs, it was agreed that I would continue, but I found my quarters far too cramped to meet the needs of what I had in mind for future development. When I suggested to the Company that I should have more adequate space in which to work, they were somewhat reluctant to expend to what I thought would meet the needs of the future.

Having been up to this time a resident for about three months, I had an opportunity to become more acquainted with the future possibilities China presented, and I decided that if the Company was not willing to put up something more like a studio, I would put it up myself, and instead of being in their employ, I would do the work for them, which would give me scope to promote that what I saw would in time be one of the world's most promising fields.

Leasing a roomy, old-fashioned house, I transformed it into quite an up-to-date miniature studio, which outgrew its usefulness in less than one year.

It then became necessary to seek a suitable piece of ground and erect one of the most modern and best motion picture studios that at that time could be found anywhere in the world outside of the United States of America. This splendid plant was built entirely of good hard brick and had hardwood floors, steam heat, and electric ceiling fans in every room. The studio consisted of an entirely closed stage, over 100 feet in length, dressing rooms, cabinet shops, scene painting department, and a lighting equipment of over 3000 amperes. The laboratory building was fully equipped, modern and up to date in every respect.

The product of these studios, in a little over a period of two years, was 191 reels, 1000 ft. length of town topics, 59 one-reel scenic pictures, 15 one-reel educationals, 6 two-reel comedies, and 4 feature length pictures, among them being the famous "Legend of the Willow Pattern Plate," the first Chinese film to be sold on the world market having its premier showing in London before Her Majesty Queen Mary and other members of the royal family. This film had a record of 263

(Continued on Page 26)

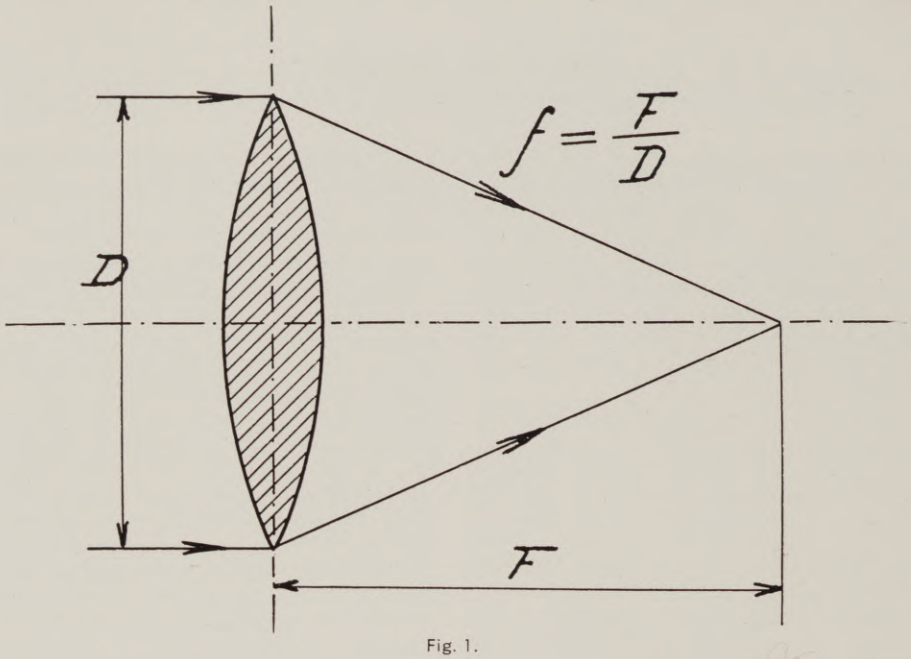

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Fig. 1.

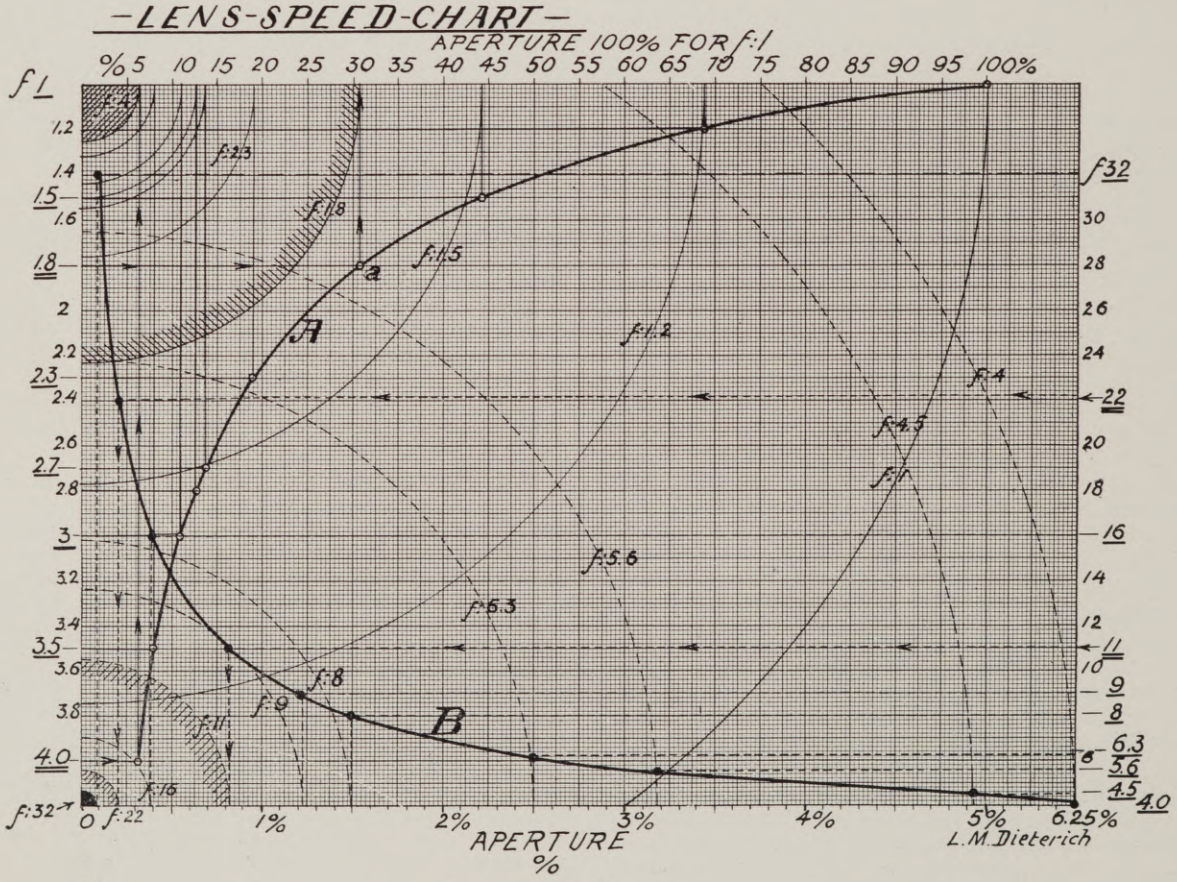

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6.25%
APERTURE %
L.M. Dieterich

Fig. 2

Screen Definition

by **DR. L. M. DIETERICH**
Consulting Engineer

PART 4

FOR REASONS beyond the control of the author it was impossible to properly prepare for this issue the comparative test photographs necessary to show some classical results of proper filter applications.

This, part 4 of the analytical study of Screen Definition, is therefore published ahead of schedule. It deals with some of the optical details of motion picture lens construction, which should be understood by the practical cameraman in order that he may obtain correct exposures, so necessary for good screen definition.

One of these details relates to the proper handling of lens stops.

It is the intention of the following study to fully acquaint the adolescent cameraman with the relationship of lens speed or light transmission to the f values for which nearly all lenses are calibrated.

In Fig. 1 f is equal the focal value F of the lens divided by the diameter D of its working aperture. As an example: If a 50 mm (2") lens has a working aperture of 25 mm diameter then $f = \frac{F}{D}$ is $\frac{50}{25} = 2$ or it works at f:2.

If the diameter of the selected stop should be 20 mm then f would be $\frac{50}{20} = 2.5$ or the lens would be working at a speed of f:2.5 and so forth.

The actual speed of a lens, however, depends on the amount of light that passes through it, and this again of the size of the circular opening of the lens system left uncovered by the stop. The area of this circle determines the amount of light passing through the lens and acting upon the film emulsion. The area of a circle of the diameter D is $A = \frac{D^2\pi}{4}$ or as the speed of a lens is in direct proportion to the area of its working aperture or stop it increases with the square of the diameter of such working aperture or stop.

In the above example a 50 mm lens working at f:2 has a working diameter of 25 mm or a stop area of $A = \frac{25^2\pi}{4} =$ 490.62 square mm; working at f:2.5 it has a working diameter of f:2.5 or a stop area of $A_1 = \frac{20^2\pi}{4} = 314$ square mm or at f:2 it works about 1½ times $\left\{ \frac{490.62}{314.00} = 1.56 \right\}$ as fast as at f:2.5.

It takes a great deal of practical experience to correctly judge lens speeds from the f value stops usually calibrated upon the lens barrels. To facilitate such judgment the author shows in Fig. 2 a diagram from which aperture areas (lens speeds) can be directly read for any f value.

At first glance this diagram looks rather complicated and may be bewildering to the non-technical cameraman, but the author hopes that the following explanation will make it a reliable and easy workable tool for any cameraman.

On its left hand f values are shown from f:1 to f:4 and on its upper edge aperture area values in percent, starting on the upper right hand corner with 100% for f:1.

The method of ascertaining the correct lens speed for any f value between f:1 and f:4 is shown by two examples.

Locate f:1.8 on the f scale, follow its location horizontally (marked by arrows) until you strike the curve A. Follow from the intersection point a the vertical line (marked by arrows) upward until you strike the (aperture) speed scale and read the lens speed: in this case 30.86 or about 30¾% of the f:1 speed.

If you repeat this method for f:4 you strike the % scale at 6.25 or get a lens speed of 6¼% of that of f:1. If you divide 30¾ by 6½ you get approximately 5 or a lens working at f:1.8 is about 5 times as fast as the same lens working at f:4.

On the right hand side of the diagram, Fig. 2, the f values from f:4 to f:32 are shown and using the corresponding curve B the relating lens speeds can be read on the lower speed scale.

f:4 is the start on this scale showing again 6.25% of the f:1 speed as read before the help of the A curve.

f:11, following the arrowed lines, gives on the lower scale a speed value of 0.82%, f:22 a speed value of 0.20% or a lens working at f:22 is about 4 times slower than the same lens at f:11.

The two f scales emphasize by underlining the standard f scale from f:1 to f:32 and the reading of their corresponding speed values is facilitated by lead lines.

The circles marked according to this standard scale enable the cameraman to get a quick comparison of the relative sizes of stop openings for the different stop numbers. For the above cited examples f:1.8—f:4—f:11 and f:22 these stop sizes have been partly shaded.

Fig. 3 shown on page 38 is a table which shows for the standard f values, used for lens calibrations, the corresponding lens speeds, or light transmission values in correct (column I) for practical quick comparison, sufficiently correct (column II) and according to the usual calibration scale on the multiple basis for practical purposes also approximately correct (column III) values.

Column III shows the tremendous difference in lens speeds for different f values and has been especially shown, because very often these large differences are underestimated by the average cameraman. This column shows per example a lens working at f:1 to be one thousand times as fast as the same lens working at f:32, at f:3.16— one hundred times as fast and at f:10—ten times as fast as at f:32.

The author hopes that this analysis and the diagrams shown herein may be of practical value and help to the cameramen at large and especially to those workers in the field of cinematography starting on the arduous and often discouraging road to become successful cinematographers.

In the next issue the author will try to present a practical manual for the use of color filters.



The Expedition to Aitutaki

by **PHILIP M. CHANCELLOR, A. S. C., F. R. G. S.**

The accompanying article by Mr. Chancellor is one of a series of reports he will give to this magazine during the coming year of expeditions to out of the way places in search of material for the Field Museum of Natural History. We might explain here that Mr. Chancellor had hoped to secure some unusual photographs of fish that are found only in the waters of that locality. But due to the fact that something went wrong with his specially constructed under-water camera, those had to be left for some future expedition. Last month Mr. Chancellor told us of the photographing of the Komodo Lizard.—Editor's Note.

AITUTAKI is not at all a well known island. Indeed so little known is it that were it not for the chance of meeting the Resident Agent of Aitutaki, on a voyage from Tahiti to Wellington, I doubt that I should have heard of it at all. During conversation several things soon manifested themselves. Perhaps the first was that there were native dances there that had never been filmed, and the second was that there were fish there that had never been collected. Both of these were just what I was looking for, and so it was decided that Aitutaki would be the goal of the second expedition.

Thru the genial arrangements of the Government of New Zealand, our arrangements were made to stay there. We paid over an amount of money for the construction of our various houses, and for the leasing of land, for our camp. Also an interest was stirred up when they heard that one of the prime objects was to film the dances.

When we got there, everything was in readiness for our arrival, and we were greeted by about all the people of the island, as well as our old friend, the Resident Agent. Tho the feeling of hospitality is somewhat the same thruout Polynasia each island differs somewhat from the other in this respect. Aitutaki, however, excels most of them, and fortunately remains unspoiled, and lacks the prevalent commercial attitude.

We had hardly time to settle down, when a round of feasts and dancing began. For almost a year they had been practicing their dances, and they wanted to show them off. I may remark that these dances have not been given for about twenty years, and some of them have never been held since the "heathen days," before the missionaries. The missionaries, with their bigoted and insane ideas, have done their best to temper and spoil the dances, but they went on in spite of them. Each of the seven settlements had their own dances, and one by one they gave us a feast, and followed it by dancing.

The dinner was usually held at noon, and after the usual gifts of hats, pearls, mats, etc., dancing commenced. This went on without a break until about five, when it was stopped for tea. After that they were resumed, until it was too dark to see anymore. In the heat of their enthusiasm, they would not tolerate the stopping of a camera for a moment, even to change the film. It was futile to explain that I did not have a million feet for them, and they insisted that every incident should be taken. The solution was arrived at by loading some magazines with about four feet of film, and after taking such shots that were wanted, allow the motor to keep the crank turning. I do not mean to imply that they were in any way unpleasant, but they were too enthusiastic. Even when they realized that the camera was finished, they kept right on dancing, often until they fell to the ground.

One house was devoted to the cameras, and adjoining that was a darkroom for loading, and developing still shots. The



Natives ready for the dances.



Here they are in full swing for the camera.

water there was too impure to even consider developing motion picture film, and there was no possible way of cooling it. However I managed to make some good negative with a Lieca, which was the only still camera I had with me.

The humid climate and weeks of rain had a very devastating effect on cameras and lenses. Gelatine filters were fogged beyond use within about four or five weeks; even stained glass filters would become very fogged in their inside. The lenses went the same way. tho they took a longer time to cloud. The film, however, kept perfectly, both the new stock which was sealed in cans, and the exposed negative, which I was careful to dessicate well, with dried paper, and Calcium Chloride. One of the cameras whose clearances were adjusted for work under normal conditions literally froze up, to such an extent that several of the steel parts, and all of the ball bearings had to be renewed upon return.



Mr. Chancellor does not say whether or not the turtle went into the ceremonial soup.

Manufacture and Use of the Thin-Film Caesium Cell for Sound Reproduction

by **L. J. DAVIES, B.A.**, and **H. R. RUFF, B.Sc.**
Engineering Laboratory, The British Thomson-Houston Co. Ltd.
Courtesy of the Physical and Optical Societies, London.

OWING to the increasing use of the sound film, the photo-electric cell now possesses industrial importance as well as scientific interest, and methods of manufacture have had to be established that will enable cells with uniform characteristics to be made in large numbers. The problems encountered in such work are somewhat different from those of a laboratory, since the efforts of the factory are concentrated on establishing schedules which will enable the production of the cell to flow smoothly and rapidly with a minimum of shrinkage due to failure in emission, or in falling outside limits previously defined. This production has to be performed, as far as possible, by non-technical labour but with skilled supervision.

The main users of the cell are Sound Reproduction Engineers, who have two main requirements that must be met. These are:

(1) The cells shall have a specified minimum sensitivity sufficient to operate the amplifier up to full output, and individual cells must not vary outside agreed limits.

(2) The sensitivity must be maintained substantially over long periods under operating conditions.

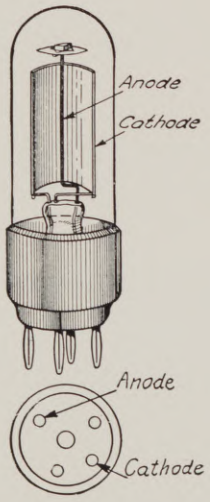


Fig. 1. Diagram of Cell, with plan of base.

Manufacture of Cell

The demand for cells for our own sound reproducers became sufficiently large to justify starting manufacture in the Lamp Works at Rugby. The type of cell being made is the red-sensitive, thin film caesium type. An outline drawing of the cell is shown in Fig. 1. In order to facilitate production the light-sensitive surface is formed on a separate silver-plated metallic cathode rather than on the glass of the cell. While the cell is being exhausted the cathode surface is oxidised and caesium formed by reduction of caesium dichromate and silicon contained in the small nickel capsule supported on the nickel rod forming the anode. The general construction of the cell is of a simple nature, consisting of the semi-cylindrical cathode at the axis of which is placed the single wire anode. These two electrodes are assembled on a single stem and sealed into a small tubular bulb. Provided sufficient care is taken in manufacture, excessive leakage current across the stem is avoided, while the

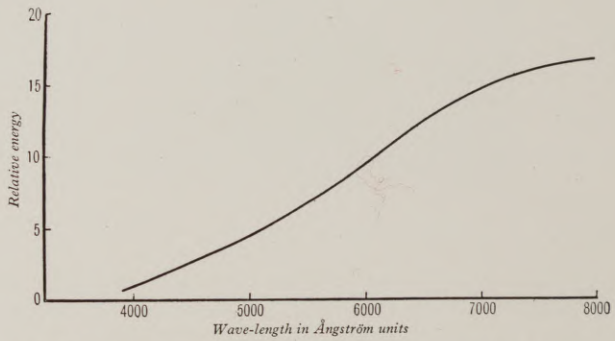


Fig. 2. Curve showing the relative energy of light of different wave-lengths emitted by a gas-filled lamp.

use of a single stem assembly makes for rapid production. The cells are exhausted on manifolds taking six cells at a time. Operators trained in lamp and valve work are being taught to perform the somewhat more delicate operations involved in the production of a photo-electric cell, and at present under skilled supervision are assembling, exhausting, activating, and testing cells. After tests in which the primary sensitivity and the gas amplification are recorded the cells are packed and placed in stores. They are then available for general sale, but the majority are sent without further testing to the cinema or theatre where the sound reproducing equipment is located. A small percentage of the stock is regularly withdrawn for complete testing, including life testing by the Engineering Laboratory. In addition the laboratory is responsible for the drawing up of the specifications of the cells and the design of the amplifying systems used with them. The manufacture of the cells is, therefore, now on a similar basis to that which has been used for some time with radio valves, and we feel that should the demand arise there would be little difficulty in manufacturing larger numbers. The harsh atmosphere of the factory has enabled the somewhat delicate and wayward photo-electric cell of the laboratory to grow up into the robust and amenable article of commerce, able to stand on the same terms as the other members of the vacuum tube family, the radio valves, rectifiers, X-ray tubes and lamps, already developed.

Importance of Red Sensitivity for Sound Film Production

The importance of a cell sensitive to red light for sound reproduction work can be realized from the following considerations:

(1) In order to ensure correct focussing on the film, and to fit in the space available in the sound head a small tungsten filament lamp is used as the light source. To secure

maximum radiation falling on the cell this filament is run at a temperature as high as possible consistent with a reasonable life. The relative energy radiated at different wave-lengths by such a source is shown approximately in Fig. 2. From this it can be seen that the greater proportion of the energy radiated is in the longer wave-lengths.

(2) The output of the cell is produced by the variation in light flux caused by the difference in transmission of clear and exposed film. An examination of Fig. 3 will show that with

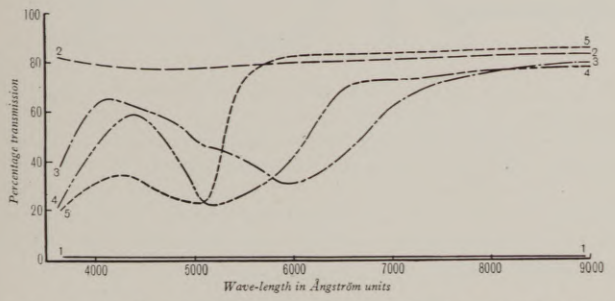


Fig. 3. Curves showing the transmission of films for light of different wave-lengths. 1, exposed film; 2, clear film; 3, bluish film to represent intense daylight; 4, film of red hue for fireside screens; 5, light amber film to give a golden effect.

normal film the difference in transmission between clear and fully exposed film is uniform over the band of wave-lengths 4000-9000 A., and therefore the long wave-lengths are fully effective. If the film stock is dyed, as is sometimes necessary, it will be seen that maximum difference in transmission occurs for all dyes only in the long wave-length region. Since the larger proportion of the radiation from the light source lies towards the long wave-lengths and since it is at these wave-lengths that the maximum difference in transmission is obtained for all types of films, it is clear that the cell should respond to these wave-lengths.

The wave-length sensitivity curve of the cell at present being made is shown in Fig. 4. This curve is taken by throwing

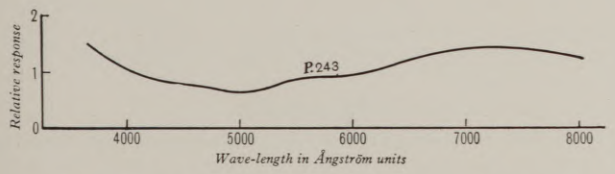


Fig. 4. Wave-length sensitivity curve for later production cells. Energy of light constant at all wave-lengths.

on the cell light of varying wave-length but constant energy and measuring the amount of photo-electric current produced. It will be seen that in the region 4000-8000 A. no sharp peak occurs, whilst maximum response occurs between 7000 and 8000 A.

Fig. 5 is interesting in two ways. It shows a plot of wave-length against photo-electric response of five cells selected at random from a batch of about 200 cells, representative of early manufacture. While a certain amount of variation exists, in general the cells can be said to possess the same wave-length sensitivity curves. It will be noted, however, by comparing the average of these curves with that given in Fig. 4, that later cells have been noticeably improved as regards red sensitivity.

If the energy wave-length curve of the light source is known, the photo-electric response for any cell to this source can be calculated by multiplying the ordinates of its wave-length sensitivity curve by the corresponding ordinates of the light source curve. The response of the cell is then proportional to the area enclosed by this curve.

The improvement in output due to increase of red sensitivity is shown in Fig. 6 which has been obtained from a cell having a wave-length sensitivity curve similar to that shown in Fig. 4 and an earlier cell corresponding to the curve in Fig. 5.

It is a simple matter to demonstrate this improvement experimentally by throwing on the cell light of equal luminous

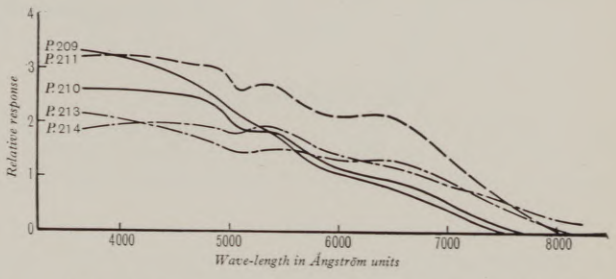


Fig. 5. Wave-length sensitivity curves for batch 1 of Mazda cells. Energy of light constant at all wave-lengths.

energy from a vacuum lamp and from a gas-filled lamp respectively. Since the eye is mainly responsive to the yellow-green radiation, the light from the lower temperature lamp will contain a higher proportion of long wave-length radiation than the light from the higher temperature gas-filled lamp since their luminous flux has been equated. The cell having the higher red sensitivity will show a greater relative response to the vacuum lamp.

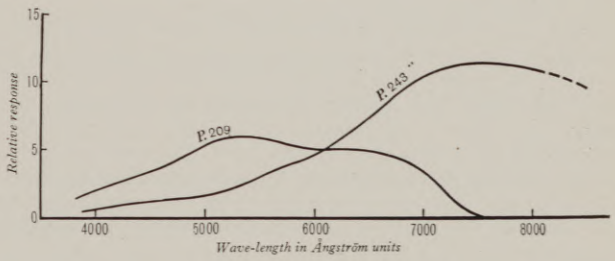


Fig. 6. Curves calculated from figs. 2, 4, and 5, showing relative response of two cells to gas-filled lamp. Response is proportional to area enclosed by curve.

Actually, of the cells shown in Fig. 5, Nos. P. 209 and P. 210 were rejected for sound film use when tested with a gas-filled lamp, although their response to day-light would be higher than cells having curves similar to Nos. P. 213 and P. 214.

We acknowledge with thanks the co-operation we have received from the Engineering Staff of the Lamp Works in the preparation of this paper, and we have to thank the Directors of the British Thomson-Houston Co., Rugby, for permission to publish it.

Acoustical Plastic Portland Invention

J. W. DUNCAN of Portland has developed a new plastic acoustical preparation, designed to eliminate echo. Plastic, it is said, can be applied to any kind of material with very little technical skill. It is extremely porous and has ability to absorb the sound waves to prevent reverberation, its sponsors say.

Hal Hall SAYS

The Handwriting

AN ASSOCIATED PRESS news item appeared throughout the country the other day which should be food for thought for intelligent makers of motion pictures. We reprint it in full:

"BOISE (Idaho) Jan. 25. (AP)—Ray McKaig, chairman of the legislative committee of the State Grange, tonight issued an open letter to the State Legislature pleading with it to do something to stop the 'increasing flood of Hollywood filth' pouring into Idaho.

"Asserting there are many high-grade films produced, he urged steps be taken to eliminate the 'so-called sex pictures, the indecent exposure and sensual embracing and lewd remarks, which have about reached the limit.'

" 'The State Grange, with other organizations in Idaho, appeals to the Legislature to do something to serve notice on the moving-picture industry that this sewage that is portrayed by word and vision on the screen in some of the films must be stopped,' the letter stated. 'I am not prude nor a Puritan, yet the indecencies portrayed and the filthy remarks made in some of the talkies are an affront to any kind of standards of American families'."

There, in a nutshell, is more than a mere straw which is blowing in the wind of revolt against pictures that try to get by on the sex angle. True, sex cannot be neglected. But neither can it be made the medium for gathering in riches for a chosen few from a vast amount of morons. Sooner or later it will bring an untold harm to the films. You may call people like Mr. McKaig narrow-minded. We will not argue that point. But we do feel that while blase New York and Hollywood may take the sexy pictures as something necessary to stimulate their blood, still New York and Hollywood are but a small part of the world in which our pictures are shown and from which the picture industry receives its money.

Congratulations

HANG up another cinematographic achievement for Clyde De Vinna, one of Hollywood's most capable camera artists!

This time it is "Trader Horn," the Metro-Goldwyn-Mayer epic which has been in the making for the past two years, and which is well worth waiting for. This man, De Vinna, has the happy faculty of giving us such cinematographic achievements. There was "White Shadows in the South Seas," for which he received the Academy of Motion Picture Arts and Sciences award; then "The Pagan," and now "Trader Horn." A really noteworthy accomplishment for this modest and retiring man.

And, to Mr. De Vinna's two associate cameramen, Bob Roberts, and George Nogle, we also doff our hat; for they had a big part in the photographing of this picture which was a photographic charm that calls for praise. Mr. DeVinna, chief cinematographer, and his two associates, have given us an atmosphere in this remarkable picture that they should be justly proud of.

Working under conditions that at times were almost unbearable in the African wilds, these three have stamped themselves as real artists, men who deliver no matter what the conditions. It is more or less a custom in motion picture circles to forget the cameraman when the publicity is being released. Just why, we have often wondered. So, this writer takes real delight in giving the mention due the cinematographers; and again—we repeat their names, Clyde De Vinna, Chief Cinematographer, and his two associates, Bob Roberts and George Nogle.

The Endless Chain

WITH the report that Chaplin's "City Lights" already has advance bookings totalling more than four millions of dollars, the motion picture air is filled with buzzings to the effect that the silent picture is again coming back into its own. Maybe! But—there is one thing producers must not forget—that there is only one Mr. Chaplin. We confidently say that Chaplin would score just as heavily in talkies. In other words, it is Chaplin—the great comedian, that the people want to see—whether he is silent or noisy.

And that leads us to the matter of the fads of the motion picture world. When talkies were first mentioned, and before Warner Brothers scored with Al Jolson, everyone declared that silent pictures were the only things—that talkies would never be any good, could never reach the heights of the silent drama. Then they switched about and everyone declared that talkies were all that mattered. Then came the color splurge. All turned to it whether they needed it or not. Then came the wide film fad. For a while it seemed as though pictures must fail unless a wide screen and film were adopted. But now the wide film is in the discard, and with the coming of a great successful silent drama we shall probably see many following in Chaplin's footsteps with silents—but they must not forget that there is only one Chaplin.

Musicals

IT BEGINS to look as though musicals are coming back. Let us hope so—that is, if they are good musicals. As we all know, the patient theatre patrons were simply drowned in musicals a while back. And some of them were terrible—and we are putting it mildly at that. Now, with Samuel Goldwyn's "Whoopee" paving the way, it looks as though there will be more musicals. There is no more reason for a musical flopping on the screen than on the stage. All that is necessary is a good musical. On Broadway a poor musical show closes in a hurry. Why not the same on the screen? So, if the producers will only give us good musicals a lot of us will be happy, and the box office will pick up, too.

The Answer

THE CRY from the theatre owners and managers for a long time has been to the effect that the motion picture theatre patrons have been conspicuous mainly by their absence. The matter at times has attained serious proportions.

The other evening this writer dropped down to Los Angeles to the Paramount theatre to see "The Blue Angel" for the second time. The theatre was jammed, and a long line of men and women extended nearly a block down the street—all waiting to get inside.

FORWARD!

The following is a message to American business from Herbert N. Casson, editor of Efficiency Magazine, London, England. We print it because of its inspiring thought; its call to Americans to rise out of the coma of depression and forge ahead. (The Editor)

"YOU are depressed. You think you are crippled. You are afraid of the future. You are full of fears.

"You have half the gold of the world and half of the machinery and most of the automobiles and all the skyscrapers.

"You have the greatest home market in the world and the largest corporations that the world has ever seen.

"You are ruled more by ideas and less by tradition than any other people in the world. You have usually done what you thought you could do.

"Now, can it be possible that a progressive nation of 120,000,000 people can be wrecked by the speculations of a little handful of fools in Wall Street?

"The prices that were forced too high had to come down. Today all prices are too low.

"There is now a golden opportunity for every man who has eyes to see it.

"Dollars are now being sold for thirty cents. Practically every security in the United States is now being sold at less than its value.

"The way to create a fortune is to buy from pessimists. Pay your money and take the risk.

"Frick started his career by buying coke ovens in the slump of 1873. Carnegie made $300,000,000 by buying steel plants in slumps.

"Hundreds of fortunes have been made by buying from pessimists. Ye Gods, what a chance there is at this moment!

"In five years from now most American business men will belong to the 'I Wish I Had' Club.

"Then, it will be too late to buy a dollar for thirty cents. The opportunity will be gone.

"When a horse balks, the balk is in his head, not in his legs. He moves on when he thinks he will.

"And when an American business man is depressed, **the slump is in his head.** There is nothing serious to prevent him from making money if he thinks he will.

"When fear rules the will, nothing can be done: but when a man casts fear out of his mind, the world becomes his oyster.

"To lose a bit of money is nothing, but to lose hope or lose nerve and ambition—that is what makes men cripples.

"This silly depression has gone on long enough. Get rid of it. It is inside of you. **Rise and walk.**"

An Interview with Frank Capra

by **HAL HALL**

THE TIME is some twelve or thirteen years ago. The place is a power house over in Pasadena. The hour is four o'clock in the morning. It is raining in torrents. Nice and warm is that power house, and the engineer in charge smokes his pipe contentedly, while a young Cal Tech student dozes peacefully on a nearby stool.

"Frank," suddenly barks the engineer, "Better go out and see if that chimney is smoking again."

And the young man thus addressed rises, turns his coat collar up about his neck and trots out into the rain. He has to go a couple of blocks down the street before he can get a good view of the top of the chimney. By the time he has returned to report that smoke was coming in clouds from said chimney he is soaking wet, and cold. That was the third wetting the young man had received in as many nights, for it was the rainy season, and the City Fathers of Pasadena were poison as far as smoke from the power house chimney was concerned. So, the young man, a student of chemical engineering at Cal Tech, who was working his way through college, and who receives twenty-five cents an hour for working in the power house from three o'clock to seven each morning, starts thinking.

A couple of weeks later he aroused the curiosity, and the ire, of the engineer in charge of the power house when he started installing a peculiar looking gadget in the base of the huge chimney. It consisted of a selenium cell on one side of the chimney, and an electric bulb on the other. And when the next rain fell the young Cal Tech man did not have to go out and get wet, for the smoke would cut off the light and thus operate the galvanometer hooked to the cell, ringing a bell when the smoke would appear. The apparatus was so good that it is still in use in the chimney after all these years.

The young college student was Frank Capra, director of "Flight," "Submarine," "The Strong Man," "Rain or Shine," "Ladies of Leisure," and more recently, the big Columbia lighter-than-air picture, "Dirigible." And that practical turn of mind which made him devise the smoke detector in order to keep him inside in the wet weather, is reflected in his motion picture work and is more or less responsible for the unusual success that has been his in the brief time he has been in the business of making motion pictures.

He has been in the picture game only some six years, and in that time has reached a point that many men never attain, even with political and family "pull" and years of effort. The chief reason for his success, as this writer sees it, is the fact that Capra applies that cold, hard, logical reasoning of the man of science to his work. He abhors affectation, personal aggrandizement, slave bracelets, freak attire and the usual "show" that so many people in this business use to cloak inability—often stupidity.

"People want to see things as they really are," says Capra. "They are not interested in watching candles slowly soften and flop over into a wedding anniversary cake when the erring wife or husband fails to remember the date. This may be subtle symbolism. But candles don't do that in real life. What our audiences want to see are the characters. They want to see what the characters are doing. They do not want the characters blotted out by backgrounds that take up all of the attention.

"After all. The main thing in a picture is the story. If you have no story you have no picture. The degree of the success of the picture depends entirely upon the story. The story is given the audience by the characters on the screen who enact the roles of the characters in the story. Why, then, do a single thing that will take the attention of your audience from these characters and the story they are acting out?

"The suffering woman is the center of attraction, say, in one scene. The audience is interested in her and what she is doing, and what she is going to do. If you suddenly take their attention away from that woman by a kaleidoscopic whirling of unusual background the audience naturally shifts attention to the background and the story suffers. So, I have always submerged the backgrounds and centered everything on the players. Reality is what is wanted in pictures, not symbolic touches and beautiful settings for mere beauty's sake.

"This naturally brings me to the subject of photography. Photography is one of the most important elements in a picture, naturally. But to my way of thinking, the finest photography is not that which makes the audience forget the players and gasp at the sheer beauty of the setting, instead it is the photography that merges itself, so to speak, in the general atmosphere of the story. Photography that is not calling attention to itself is the finest photography. A cinematographer should know the story long before starting, and should get the mood of the story in his mind, and then keep his photography in the mood of the story from start to finish. A cinematographer can do more than any other individual in portraying the mood of the story, or he can do just the opposite. The good cinematographer portrays that mood, lights his picture so that the audience doesn't realize he has lighted it, gets over the proper effect so that the audience doesn't realize he has done it. In other words, the audience should never realize that a director has directed the picture or that the cameraman has photographed it. That is why "directorial touches" and photographic splurges should be kept out of pictures. Excellence in direction is reached when the audience never thinks of the director's work. Excellence in photography is achieved when the audience forgets photography. Excellence in the actor's work is attained when the audience forgets the player is John Smith, the star, and thinks of him as a living character on the screen. I feel that the time is past when a director can make a series of photographic settings of rare beauty and foist them on the public. The public wants reality and life and story. That is why a player who is not handsome or beautiful, but who is a real actor or actress, is such a success when given the chance."

Capra has his own ideas regarding dialogue. He doesn't like too much of it, and what there is must be good. Rather a wise thought.

"I believe," says Capra, "that there is too much small talk in a lot of pictures. Players chatter away at a terrific pace and most of the time say practically nothing. No wonder you see audiences squirming in their chairs. Sound is the greatest advance the industry has seen. But sound, like color, has its place. On the stage the characters are not always chattering like magpies. Usually the most tense moments of the drama are moments of absolute silence. The same is true in pictures. Dialogue where needed—and of the best—that is what is needed. But where the story can be carried without it—do not have conversation.

"The stage has been an institution that has come down through the ages. It will go on through the ages. The reason is because the writers of plays must give a play that holds interest. The same holds for the screen, although a lot of people do not seem to realize it yet. It takes time to write a story and a screen play. If you rush it you will have a poor picture. You cannot make pictures as you make soup, by recipe.

"And, as to players. Too much attention is being paid to the matter of voices. Less elocution, more real acting, and our

(Continued on Page 38)

1931

EASTMAN

PANCHROMATIC

TYPE TWO

EXCLUSIVELY



GLENN R. KERSHNER

The Fate of the Iodide

(Continued from Page 10)

oped and re-precipitated according to the mechanism suggested above. Therefore, in an attempt to answer this question, the following experiments were performed:

A medium speed film containing four per cent iodide (Type A) was fully exposed, and a total of eight square feet was developed in two litres of caustic hydroquinone developer without bromide, using the following formula:

Hydroquinone	12.5 gms.
Sodium bisulphite	12.5 gms.
Sodium hydroxide	25.0 gms.
Formaline	8.0 c.c.s.
Water	1,000 c.c.s.

The first sheets (5 inches by 8 inches, developed four at one time) were developed for ten minutes at 70° F. The time of development was gradually increased to twenty minutes as the developer was exhausted. Examination of the developed film by bleaching and clearing showed that a trace of undeveloped emulsion still remained on the film. The developer was found by analysis to contain in one litre halides equivalent to 0.118 gm. of silver iodide and 6.16 gms. per litre of silver bromide. As the original film contained four per cent iodide, and the developer contained iodide equivalent to 1.9 per cent of the silver halide, it was evident that under these development conditions about half of the iodide had developed and migrated into the developer. It seems, therefore, that even under less extreme conditions of development all the iodide must be developed from some of the grains.

In order to get an idea of the speed with which the iodide could replace bromide in undeveloped emulsion a piece of unexposed Type B film was immersed in a sample of the used developer from the above test. Fifty square inches of film were agitated in 500 c.c.s. of developer for five minutes, washed, and dried. On analysis it was found that the iodide content of this film had increased from 1.25 to 4.3 per cent. It is evident, therefore, that even with the small concentration of iodide present in this used developer the iodising action was quite rapid.

Another lot of caustic hydroquinone developer was used to develop eight square feet per litre of Type A film on which ordinary picture exposures had been made. The halide in this developer was found to be equivalent to only 0.016 gm. of silver iodide per litre and 5.27 gms. of silver bromide, an iodide percentage of 0.3 per cent, while the emulsion used had an iodide content of 4 per cent, thus confirming the fact that it was nearly all retained by the film.

Iodide in Developers

The above data shows that a very small quantity of iodide accumulated in the used developer tested, along with considerable bromide. This must be the result of an equilibrium between that part of the iodide which diffuses out into the developer, and that continually absorbed from the developer by undeveloped silver bromide. Of course, only a small part of the released iodide would ever diffuse out into the developer, as most of it, except on fully exposed and developed areas, would be retained in the film, as described above. This equilibrium value must be greater the higher the iodide content of the film used and the more complete the exposure and development.

The fact that developers conditioned by use give less fog than fresh ones is generally known, and has been confirmed in this laboratory.[7] Southworth[6] stated that the addition of 0.02 gm. of iodide per litre added to a fresh high contrast developer is very effective in diminishing fog. This is in accord with our experience that of all the methods by which we have tried to artificially condition a developer to diminish tank fog,[7] the addition of 0.005 to 0.02 gm. of potassium iodide per litre along with the usual bromide appears to be the most effective. The optimum quantity depends on the developer strength, as too much will retard both development and fog. With an ordinary carbonate developer, 0.005 gm. per litre is sufficient. The influence of oxidised developing agents in preventing aerial fog is not considered in this relation.

Conclusions

While the simple experiments described above may not be sufficient to prove the accuracy in detail of the phase of the development mechanism described, yet they do support it very strongly. There can be no doubt that in the later stages of development the composition of the residual emulsion in respect to the iodide bromide ratio is changing rapidly, and that the rate of change is affected greatly by the percentage of iodide in the original emulsion. Moreover, if the silver iodide is developed, and the iodide re-deposited according to the mechanism suggested above, a proper consideration of the mechanism is of great importance in the interpretation of many development phenomena.

Summary

A description is given of the probable course of the developer of bromo-iodide emulsions, whereby the soluble iodide liberated by development is re-deposited on undeveloped silver bromide grains. It was found that with partial exposure most of the iodide remains in the undeveloped portion of the emulsion, but with full exposure it can be leached out into the developer. The small quantity of iodide which accumulates in a used developer is a very important factor in its decreased fogging action.

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●

Electrotone Recorder Has Unique Features

ELECTROTONE portable sound-on-film recording unit, said to embody some new and unique features, is a product of the Electrotone Corp. of Detroit, manufacturers of sound recording systems and electrical synchronization.

In this unit, mechanical light valves and glow lamps have been eliminated, while recording is possible with either variable density or area, as desired, through a simple mask change. In conjunction with this unit a patented electrical synchronizer is used. Through the use of this electrical synchronizer it is possible to have two independent shafts revolve at identically the same speed and maintain that speed for as long as desired. This means that a motor in Detroit can be regulated to the speed of a motor running in New York, or at any given distance, without any variation whatever, through radio control.

As recording of sound is done independent of the camera, through the medium of this electrical synchronizer, perfect synchronization is assured at all times, as for this particular application the synchronizer has been adjusted to exercise a complete and absolutely dependable check 12 times on every foot of film running through, the company states.

●

Jewish Talker Released

"SHULAMITH," Jewish talker by Abraham Goldfaden, has been released by Judea Films Inc. The silent film was produced in Palestine and music and singing added here.

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1. An impressive altar in the great cathedral at Mexico City. **2.** The beautiful and well-preserved altar in the ruins of an old convent. **3.** A view of the entrance to the great cathedral. **4.** Weird patterns are found on the canal waters of Xochomilco. **5.** At the top of the world's highest auto road at Toluca. **6.** A typical scene in Xochomilco. **7.** A little bit of hidden Mexican charm. **8.** A striking contrast in light and shadow in Puebla.

Mexico

(Continued from Page 9)

attention, and the results are rapidly resulting in advancement.

Speaking of hospitality, I must say something about the officials who for six weeks did everything in their power to make the stay of myself and Mrs. Mohr a visit which we shall ever remember with much delight. What we would have done without the hospitable guidance of Colonel Casimiro Talamantes, Chief of the Department of Investigation at Mexico City, I do not know. It seemed as though this magnificent host did nothing but try to make our stay a pleasant one. He guided us to delightful spots that we would probably never have thought of. He accompanied us on tours that will long remain stamped indelibly on our memories. In short, he was a magnificent gentleman.

Then, there was Benjamin A. Martinez, Chief of Identification and his excellent secretary, T. A. Gonzales, who took us on a tour of the police stations of Mexico City one night that was a revelation to me. And, that tour brought to light a condition that should be interesting to us of the crime wave belt. Not a murder, not a holdup was revealed in a period of twenty-four hours in that great city of hot-blooded Latins. Rather a fine condition of affairs. No wonder Senor Martinez and Senor Gonzales are proud of their country.

Jose Garcia Payon, Director de la Biblioteca y Museo del Estudo, was another who played no small part in showing us old Mexico. And Roberto Garcia, Oficial mayor de la Sria Particular del Gobernador del Edo de Mexico. The two accompanied us on some of the most marvelous trips of our entire visit. They took us on an auto trip up the highest automobile road in the world. That was in Toluca where a volcanic mountain rears its magnificent head 18,000 feet into the air. The auto road goes up 16,000 feet. What a trip that was. What scenic beauty! What photographic possibilities were revealed on every side! Indescribable!

Last, but not least, there were President Rubio and his capable Secretary, Colonel Jose Martinez. A charming man is Senor Martinez; and after meeting us, he reported to the President that we were in the city. Immediately President Rubio sent word that he would like to meet us. Imagine, a President so Democratic! And we found him an unusually alert, keen, kindly, progressive human being; a man who does not let the fact that he is President of a great country cause him to forget that he is after all a man. For an hour he discussed motion pictures with us. Wanted to know all the latest developments from every angle; showed a real insight into the business.

President Rubio is interested in the motion picture from not only the entertainment point of view, but from the educational angle. And he declared that any reputable person who was really respectable and honest, would find the greatest support in any effort he might make along motion picture lines in Mexico. They have practically nothing in the way of producing lines down there, but hope to see that develop in the future.

From my own feeble observations and my conversations with Mexican officials I would say that Mexico offers untold possibilities to those interested in production—provided they are honest and do not go down there with the idea of bunking the country by floating promotional schemes that will not hold water. The country is motion picture mad. Every picture house is crowded. Even the Indians in the back countries flock to the picture houses.

Sound has been installed in most of the theatres, and the general public has taken to sound in a thorough fashion. But they like Spanish versions. There is considerable objection to pictures in which every character speaks nothing but English. They cannot be blamed for that, for I am sure that pictures with characters speaking Spanish would not attract many of us to the theatres here.

Laurel and Hardy are the great picture favorites of Mexico, with Ken Maynard running a close second. The sign of Laurel and Hardy will pack any house in Mexico. In the silent days they liked them, but now that this comedy pair are speaking Spanish in the pictures that go to Mexico, they are doubly adored. The Mexicans howl with delight at this pair. They adore Ken Maynard, too. In fact, many with whom I came in contact, asked if it would not be possible to have him come down there and appear with his horse some Sunday in the great Bull Ring of Mexico City. I know that more than 40,000 people—the capacity of the Arena—would pack that place to cheer him. And probably as many more would jam the streets leading to the arena.



Colonel Casimiro Talamantes

From a scenic and photographic viewpoint, Mexico is a veritable Heaven of delight. No matter where you turn you see subjects that make you want to set up a camera and just photograph endlessly. Magnificent old Aztec ruins that have come down through the centuries; cathedrals that are beyond the power of verbal description as to their gorgeous beauty; the famous floating gardens of Xochomilco; towering volcanic mountains, silent now, but ever carrying that threat of some day bursting forth with a shower of molten lava; the Thieves' Market; the ruins of the great convent at Acolman; Chocula, the town of 1000 inhabitants, but which boasts of 365 churches —one for every day of the year; Cuenevaca and Puebla, towns of exquisite charm and photographic beauty. One could go on indefiniately.

One of the real garden spots of Mexico is at Xochomilco. This suburb of Mexico City originally was built on marshes and swamp. It was a Mexican Venice, with waterways as streets. And then, they constructed rafts and upon them placed dirt taken from the beds of the waterways. On these were planted gardens. As time passed these rafts became covered more deeply with dirt; trees were set out and their roots extended

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Eight Years In China

(Continued from Page 11)

bookings in Great Britain and Ireland alone, and in March, 1930, was still being shown at the Piccadilly Theatre in London, four years after its original release in that city.

From these personal efforts came the general knowledge of cinematography to China, and was the incentive for the formation of 48 actual Chinese motion picture companies during 1925, exactly three years after my commencement of activities. These general activities in the motion picture field resulted in the increase of Eastman Kodak Film sales from less than 5000 feet to over 1,000,000 feet per month. The peak for film sales has reached over 2,000,000 feet per month, the standing order regularly shipped from the Eastman Kodak Company plant at Rochester for use in my studio alone being 60,000 feet of negative and 200,000 feet of positive film per month.

The purpose of this great motion picture activity was for the promotion of cigarette sales, and the method used for advertising of the various brands of cigarettes manufactured by the British-American Tobacco Company was by having the name of the particular cigarette in a small frame at the foot of the subtitle.

We were the first producers in China, not only to make films, but the first to use the native language in the subtitling of our pictures. Owing to the increase of Chinese patronage we find today more than 200 very fine theatres with more in construction. The largest and foremost of these having the most modern cooling and heating systems, and some with a seating capacity for 3000 people.

In fact, the Chinese have now become such "movie fans" that the major American and European film producers have set up their offices in Shanghai, with branch offices in almost every city of importance in China.

As a further example of the business being done today "All Quiet on the Western Front" broke all previous box office records by grossing nearly $200,000 (Shanghai currency), seats being booked a week ahead, and the first time Sunday morning showings had ever been resorted to to handle the crowds, and it might be said that 80 percent of this gross total was from Chinese.

By the middle of this year there will be more than 40 major theatres wired for the talkies.

It requires very little imagination to see what influence motion pictures have had toward the Westernizing of China, and as the Chinese are now at the inception of a modernization of their society and are receptive to influence from without, I know of no agency that can be more helpful in hastening the transition as an educational factor in all its varied aspects as the sound and color films, for which purpose I am now in America to re-equip my studio with most modern sound equipment, and the establishment of the Multicolor laboratory. With these two new factors to work with, it will be possible to open up many new avenues for education, which I predict within the next five years will open up a vast market for many of America's surplus products.

Besides making this trip for the purpose of purchasing new equipment, I am also inviting American manufacturers to subscribe industrial and educational films, as a part of my educational program, as the contribution of films of this nature will be the means through which America can give its message of good-will to the people of China.

The following excerpt from a letter sent me by Mr. H. C. Mei, of the Chinese law firm of Mei and Liu, Shanghai, gives an idea of what the progressive Chinese think of the influence of the motion picture. In part he says:

"I believe that properly diversified, carefully selected and really informative films of Western scientifically organized industries will provide a mental stimulus and make a social effect of farther reaching value than all the political and other propaganda that has in recent years been directed towards the hinterland of China."

Since this story will appear in THE AMERICAN CINEMATOGRAPHER especially published to meet the motion picture industry, I would like to give a little advice to them for their future good in their business relations so far as China is concerned:

In the first place we would draw to the attention of the directors, story writers, dialogue and title writers, that when they design a picture, to forget that America represents the whole world. In making up their picture they must forget that the queue, commonly known in this country as the "pig tail," now belongs only to a picture which deals with some historical period of the life of China, previous to the abolition of the Chinese monarchy. Today one rarely ever finds, except in the most remote parts of China, any one wearing a queue, and our writers and directors should remember that it is natural to suppose that the bulk of the Chinese audiences patronizing American pictures (more especially today since they have to listen to dialogue in the English language) are educated Chinese. Therefore, any reference made to them by the use of the word "Chink" would naturally offend them. In pointing out the educational value of motion pictures, it behooves the industry to pay a little more attention to these matters, and I would also point out that for the few dollars represented in that market we cannot afford to have our prestige destroyed through a number of pictures dealing with the sex question, which paints us before the eyes of the now many million Orientals as being an immoral race. Creating this feeling certainly does not assist those pioneers representing our industries in establishing that harmony and good feeling so necessary in dealing commercially with those people.



W. H. Jansen

Mr. W. H. Jansen, writer of the above article about motion picture development and conditions in China, is head of the Industrial and Educational Films, Inc., Shanghai, China. He formerly was well known in American motion picture circles as a cameraman. For eight years he has been in China and has photographed about every conceivable kind of picture over there At present he is in the United States purchasing sound, laboratory and camera equipment and making various contacts with releasing and producing organizations. Anyone wishing to learn anything concerning the picture business in China may write Mr. Jansen in care of this magazine, and he will be pleased to give any information possible.—Editor's Note.

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JOSEPH WALKER, Chief Cinematographer

FRANK CAPRA, Director

National Lamp Works Holds Premiere of First All-Color, All-Talking Motion Picture for Industry Use

Photography by Alvin Wyckoff, A. S. C.

"STEPPING AHEAD," the first all-color, all-talking motion picture produced for use in industry, had its premiere on January 12, at the General Electric Lighting Institute at Nela Park, Cleveland.

An audience composed of nearly a hundred National Electric Light Association Merchandising Committee members joined with Cleveland Electric League officials, publication representatives and Nela Park officials in voicing enthusiastic approval of the production which, it is expected by officers of the National Lamp Works, the film's producers, will now make possible the presentation of the company's merchandising story in sections of the country which hitherto have been difficult to reach.

"Stepping Ahead" is a fast-moving vehicle for the offering of the National Lamp Works' 1931 merchandising program. Through its combination of motion, music, voice and color, it presents the potentialities of the lighting market, and shows how the National Lamp Works is equipped to assist its Agents to capitalize the market. In addition, it shows, in a form that every lamp seller can readily understand and apply, the best sales methods for increasing lamp sales and how they result, in contrast with those methods which in the light of merchandising research, are no longer considered good practice.

The opening scene of the film, accompanied by a spirited busy thoroughfare. The speaking voice of the film relates how in man's forward march of progress, he is stepping ahead to the better things of life, and is doing more in less time than ever before in the history of civilization. The scene quickly fades into sequences in which first a railroad train speeds toward the audience, then an airplane taking off from a landing field. As with higher speed it approaches closer and closer to the audience, the sound of its whirring propellor growing in volume, one realizes, as the film announcer points out, that man's new conquests have eliminated the fetters that impeded his ease and celerity of movement in former years. "This is an age of speed," the film voice says, "and man has attained a new-day freedom of motion of which our ancestors never dreamed."

The remainder of the first reel is devoted to picturesque colored close-ups identifying various lighting markets. A charming home setting, with beautifully gowned women, luxuriating in the warm, restful glow of flame-tint light, is shown. In rapid succession are depicted the vast Sunlamp market, with intimate close-ups of busy executives; tiny babies gurgling in the warm rays of artificial sunshine; and the Sunlamp-lighted Chicago studios of the National Broadcasting Company, with a radio recital in progress. The newly developed Photoflash Lamp, General Electric's new contribution to the photographic art, which makes possible the finest flashlight pictures without smoke, noise or odor, is next demonstrated in actual application. Times Square, with its surge of humanity and colorful electrical advertising, is next revealed.

Part two of the film, which is a two-reel production with appropriate music throughout, shows a flashback to the days when the incandescent lamp was a novelty. A demonstration of an attempted lamp sale of those days shows an over-anxious store keeper losing a sale to a disgusted prospective lady customer, through his clumsy sales tactics. Then follows the story of the National Lamp Works' organization twenty years ago, with its inception of nation-wide advertising which, like the snow which is shown falling on a miniature city, has blanketed the country and caused the present widespread consumer acceptance of General Electric MAZDA Lamps.

The National Lamp Works' Four-Star Merchandising Program for retail Agents is then dramatically presented. The Agent audience is urged to follow the Four-Star Plan for increasing their lamp sales through consistent use of: 1. Attractive Window Display; 2. Harmonious Interior Arrangement; 3. Effective personal salesmanship, which involves selling lamps by the carton of six instead of two or three at a time; 4. Going out after consumer contract business. Actual demonstration of the right and wrong way to sell lamps puts over this angle of the story with a punch that only a colored motion picture talking film employing trained actors makes possible for general presentation.

The picture ends with a dramatic review of the possibilities of the lamp and lighting market and the powerful urge to "Step Ahead with General Electric Mazda Lamps."

H. H. Green, former Advertising Manager of the National Lamp Works, and now Assistant General Sales Manager, who conceived the film and wrote its continuity, feels that "Stepping Ahead" will enable the National Lamp Works' field organization to tell a better story to a wider audience than has been possible heretofore. He points out that whereas a sales specialist might make a tour of the country, covering the larger cities and speaking to a number of groups of Agents, such a method has always taken weeks and months of time, the schedules have been difficult to arrange, and individual speakers have found it practically impossible to maintain a consistent excellence of presentation. In addition, it has been expensive and cumbersome to transport a group of trained actors and the large amount of "props" and display material. The film, he feels, solves these difficulties, since it tells a consistent story of uniform excellence, and may be shown before one person or a thousand, at any time, and at any place.

It is planned to release additional films for sales, educational and promotional work throughout the country as field conditions warrant their issuance. The various sectional sales divisions of the National Lamp Works throughout the country are being equipped immediately with projectors and sound equipment.

"Stepping Ahead" was produced by the Industrial Division of Multi-Color, Ltd., Chicago. The scenes were photographed in California, New York City, and in the film laboratories of the General Electric Company at Schenectady by Alvin Wyckoff, who has done a splendid piece of color photography.

●

DeForest Radio Develops 2 Photo-Electric Cells

DEVELOPMENT of two photo-electric cells, numbers 602 and 668, has been announced by the DeForest Radio Co. of Passaic, N. J.

The DeForest photo-electric cell No. 602 is said to be of the potassium hydride type. The active surface is deposited upon the inside wall of the bulb as a cathode, while a wire ring in the center serves as an anode.

Cell No. 668 is of the caesium argon type. The active surface is deposited upon a half cylindrical silver-plated cathode, while a straight wire at the axis of the cathode serves as an anode, it is claimed.

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Staub Honored

RALPH B. STAUB, who made the first interior scenes of Alaska in the Mt. McKinley section about 10 years ago, when he was about the youngest cameraman in the business, has received word from friends in Alaska that a river up there has been named in his honor. It is called Ralph River.

Frenchman Invents Metal Film

METAL FILM, claimed to be more durable and resistant than the present celluloid preparation, and to be of equal lightness and efficiency, is reported to have been invented by Louis Lumiere, French scientist.

Remote Control for Theatres

REMOTE control for sound, enabling a theatre manager to dispense with cue sheets, buzzer signals, telephone calls, etc., and to regulate quality as well as quantity of sound from a down-stairs position without interfering with the work of the projectionist, will soon be available to all theatres. The device, called the Strong Remote Volume Control, and patented by L. D. Strong of the Essennay Electric Manufacturing Co., Chicago, has been approved by RCA Photophone and will first be installed in RCA equipped houses. Later it will be ready for adaptation to other makes of sound equipment amplifiers. The Essennay company is now turning out the devices for RCA Photophone.

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Amateur Movie Making

by HAL HALL

JUST as we were settling back in our well known lethargic manner, happy over the fact that a new year had started with a rather rosy outlook, despite prevailing conditions, our worthy and estimable associate, Mr. William Stull, decided to surrender to some wandering microbe that came in with the above-mentioned new year.

In other words, Mr. Stull, who conducts this Amateur department in such an interesting manner, became very ill and, while he is on the high road to recovery now, still is unable to resume his work. So, we have taken it upon our self this month to attempt in our feeble way to take his place. We are sorry for our readers, for taking the place of William Stull is an order that we fear is much too large for such an individual as Ye Editor of this magazine.

We are particularly fortunate in having the services of Mr. Stull in the Amateur department, for he is an unusual editor, in that he writes entirely from experience. Most of us are too busy editing to actually do anything in a practical way. But Mr. Stull, a capable man with the professional camera, spends hours with the 16 millimeter camera wandering far afield at times in his search for subjects that are unusual. Some day we hope to persuade him to allow us to have some prints made of some of his 16 millimeter subjects and pass them along for our readers to view in their own homes. His pictures are revelations to a lot of amateurs—and when he reads this he will probably tell this writer that he is passing out misinformation. But, be that as it may, we are certain that his shoes are a bit too large for this writer to fill. In fact we feel ourselves slipping around already. His physician says that he will probably be back on the job in time for the March issue. We fervently hope so. And now to get to the work of filling his space in this department.

Panning

The other evening we dropped in on a friend who has been asking us for months to come and see some of his 16 millimeter stuff. We use the term "stuff" purposely, for that was just what it was. A beautiful scene would appear on the screen. But—not for more than two or three seconds. Then SWISH! Our eyes would almost flop out as we tried to follow the camera. He was what this writer likes to call a "panning hound." And such panning. The results gave the impression that he simply swung the camera around in an arc much as though he were swinging a bucket of water which he knew would spill if there was not sufficient speed in the swing to hold it in the bucket.

Practically every subject he showed was spoiled by this very business of panning. Apparently he was trying to take in the entire world in each shot. This seems to be a major fault with users of 16 millimeter equipment. In the past year this writer has looked at more shots of this nature than he ever hopes to see again in all his life. Why, oh why, do amateurs do this! Why not select your shot and make it artistically and let it go at that! Why get the idea that every shot must take in all the surrounding territory!

Perhaps the reason for this is the fact that in the pictures we see in the the theatres we so frequently see follow and pan shots. But you never see them done so hurriedly as to make them monstrosities. The cinematographer who makes them has his camera on a tripod with a special head constructed so he can pan steadily. If he attempted to pan without the tripod and the necessary equipment he would ruin a shot that otherwise is very effective. Holding a camera in the hand is unsteady and difficult enough anyway, without trying to swing in an arc that takes in half of a city. So, take this writer's advice, Mr. or Mrs. Amateur, and pan less and more slowly and more steadily.

Picking Your Subject

Another outstanding failing among amateurs, and we seem to be in a super-critical mood today, is in the selection of subjects to photograph. What a joy it is to sit in some amateur's home and look at their pictures! And—what a bore to sit in the homes of some others! The chief difficulty seems to lie in the fact that most amateurs use their motion picture camera the same as most people use their still kodaks for the first time—just snap at any and everything in sight. In the first place, this is a decided waste of film, for there is so much we photograph that is not worth a snap of the finger. After the first excitement and novelty of making pictures that move is passed, it is well to take stock of what we have done with the idea of improving in the future. Refrain from shooting pictures just for the sake of shooting. Look about for the interesting, the unusual—for something that will be of interest next year, or perhaps five years from now.

For example. Suppose you live in Boston, or its suburbs. You have a full year's work cut out for you if you sit down and plan out a scenic picture that will take in the historic places of Boston and surrounding territory. But, do not just start out shooting. Plan what you are going to do. Figure what you are going to photograph first, study the subject from every point of view so that you will secure the best and most interesting picture of it. Concord, Lexington, Bunker Hill, the Old North Church—why, there is a wealth of marvelous material there. But photograph it with an eye to making a picture that, when blended together, will be a picture that will give a stranger an intelligent view of this historic city. Then, title it intelligently. You will have something really worth while. Incidentally, such a picture, well done, might be the means of turning many good American dollars into your purse, for such a picture has educational value, and if properly done and properly marketed can be sold.

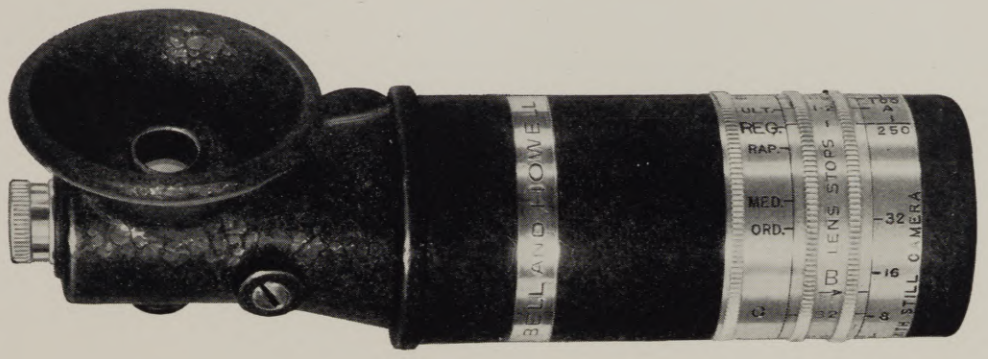
The same possibility is found in Philadelphia, Gettysburg and countless other places. Think it over, and you will be making some scenic pictures that will surprise you.

One feature that will improve your pictures is the matter of titling. So many people go on a trip, shoot a lot of scenes and then piece them together and run them in a haphazard manner, with titles that tell practically nothing. It is a simple matter to take the same scenes, arrange them in more or less orderly sequence, and then title them so that they tell a story from start to finish. For example, you start with a shot of a foreign city as you first enter. Expain this in your title and then go on with the idea of continuity in mind. You tell the story in your titles and portray it in your pictures. Much pleasanter to the eye of the folks at home than a jumble of shots that you have to explain yourself as the picture is being shown. In other words, take a leaf from the note-book of Burton Holmes. You know how interesting his pictures are.

(Continued on Page 41)

NEW...The B&H PHOTOMETER

••• for still camera requirements •••

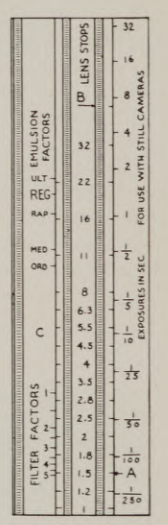


The B & H Photometer, first introduced for gauging exposure for Filmo movie cameras, is now presented for use with "still" cameras. "Matched illumination" remains the basic feature of the new B & H Photometer.

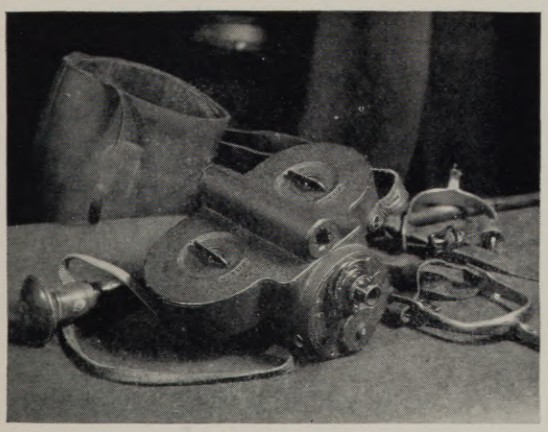
This new Photometer gives scientifically correct exposure readings in terms of lens stops from F 1 to F 32, shutter speeds from 32 seconds to 1/1000th of a second, emulsion factors from "ordinary" to "ultra-rapid," and filter factors from 1x to 5x.

You press a button, sight through the eyepiece directly upon your object, and turn the dial. Then take your lens stop reading direct for any shutter speed you wish to use—or vice versa. Modification for different filters and emulsions is obtained by moving the respective scales to the desired point.

The new "Still" Photometer is easily the most radical advance in exposure meter design and operation in years. Write for special literature. B&H Photometer for still cameras (Model B), $20 with case, $17.50 without case. Model A, for Filmo Cameras, same prices.



(Left to right) Ring C, for filter and emulsion factors, Ring B (stationary) for lens stops, Ring A for shutter speeds.



No Filmo has ever ••• worn out •••

Gen. Milton J. Foreman, soldier and world-traveler, has put his Filmo, now more than 5 years old, to the severest test, carrying it on his extensive travels throughout the world. It has served him loyally, like the veteran it is, giving him reel after reel of theater-clear movies, with never a balk, never a failure.

BELL & HOWELL CO., 1848 Larchmont Avenue, Chicago, Ill.

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Portrait Pitfalls

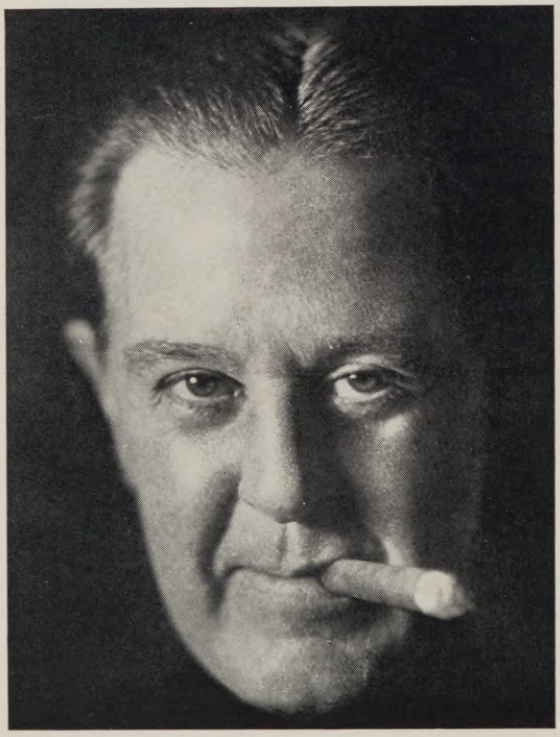
By **Lawrence Grant**

Mr. Grant is one of Hollywood's best known character actors. Photography is his hobby, and his portrait work is considered among the finest. As a pictorialist he also claims distinction. In the future issues of this magazine Mr. Grant will contribute a series of interesting articles, with his own illustrations.—Editor's Note.

TRADITION has it that, many years ago, an aspiring young photographer asked Edward Steichen, then, as now, the dean of American camerists, what was the secret of making artistic pictures. And to this question, tradition tells us that Mr. Steichen responded, "Simply make them easy to look at."

There is a great deal of truth in that definition. Photography, whether professional or amateur, is primarily a means of making accurate and pleasing representations of whatever may lie before the lens of the camera. In its ability to do this lies both its commercial value, and its claim to artistic standing. Being a basically mechanical process, its accuracy is unquestionable, while the fact that it can, in a great measure, be controlled by the individual photographer indicates that it can be made to make pleasing pictures of almost any subject —which gives it a place among the arts.

Unfortunately, however, this matter of individual control can be gravely exaggerated. Furthermore, it is being exaggerated, in too many instances, to the point where individual artistry is giving place to affectation. Now, this development is quite permissible in the purely amateur field, but in the professional field—particularly in the case of portraiture—it becomes definitely bad. In my own personal opinion, as one who has striven and suffered on both sides of the camera, it seems very clear that the sole object of a professional portrait should be to give the best and simplest representation of the sitter; in other words, Mr. Steichen's picture which is "easy to look at." It should be a tribute to the appearance and character of the sitter, and not—as is so frequently the case today—a tribute to the "cleverness" of the photographer.



During the course of my many years in the motion picture industry, I have had the opportunity of discussing photography with most of the outstanding directors, cinematographers, and critics of the day; and the consensus of their opinions has been that the most perfect and artistic photography is that which is invariably simple and unobtrusive. If this is so in the matter of cinematography, why should it not be equally applicable to portrait photography? In the language of the industry, why should a personal portrait serve to publicize the photographer, rather than the sitter? In painting and sculpture we find great artistry invariably characterized by simplicity and concentration upon the subject, letting the attention be focused upon the subject, rather than the artistry of the maker. In cinematography we find the same thing. But in photographic portraiture, we all too often find ourselves lost in a maze of trick lightings, bizarre compositions, and bewildering camera-angles, all of which may increase our esteem for the ingenuity of the photographer, but which certainly do not bring the picture any nearer to Mr. Steichen's ideal of one that is easy to look at.

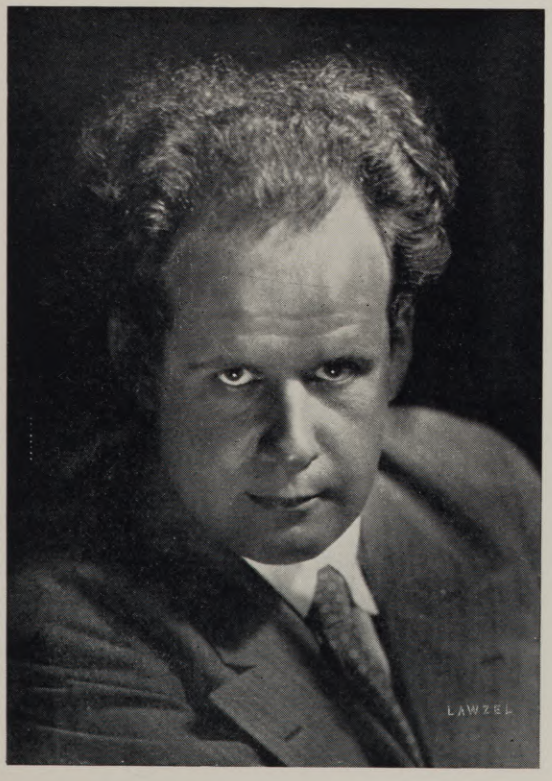
Probably the greatest offenses are committed in the name of composition. Now, obviously some attention must be given the arrangement of the component parts of a picture, but it has always seemed to me that to go about it with the idea of making a perfect S-composition, or a perfect triangle-composition, or anything of the sort, was rather putting the cart before the horse. If you can arrange your subject so that it makes a pleasing picture, why not let it go at that, instead of worrying whether or not it is according to the accepted forms, or delving into higher mathematics to check the balance of the areas of light and shade? In my own photographic experience, and that of my friends who operate cameras in the various studios and portrait galleries, composition is predominantly a matter of an instinctive appreciation of beauty, rather than of a conscious striving for effect. If there is anything to be striven for, it should be that natural simplicity which, in the completed print, gives one the impression that the picture was quite un-posed. In my own work, I make it a definite rule never to lay a finger on my subject during a sitting. I find that it puts the average person vastly more at ease if you merely tell him the general position you wish him to take, and then, after the inevitable firing of lights, focusing, and so forth, chat with him until he unconsciously assumes the proper expression and pose. This, naturally enough, will enable you to capture those fleeting, natural mannerisms and expressions which really characterize a person, and which are so rare in most portraits.

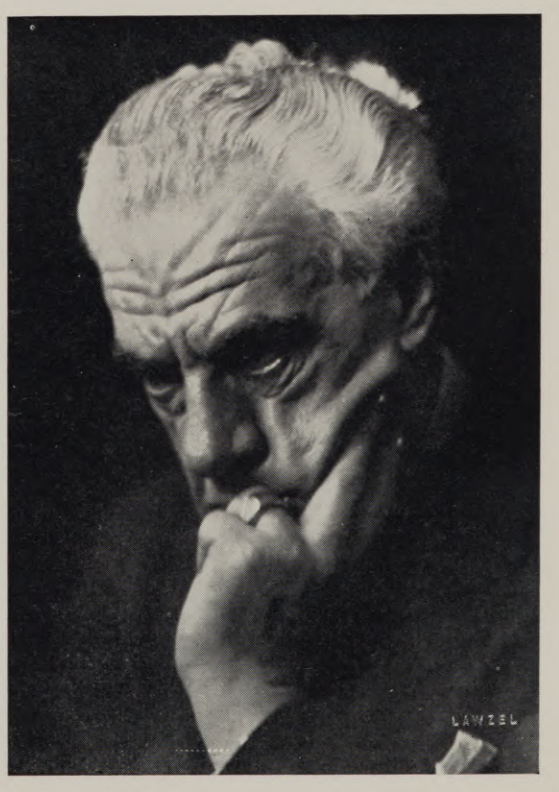
Upper left on opposite page is Mr. Grant at work in his studio. Another view of him is also shown at upper right on this page. Lower left on opposite page is portrait of Paul Nicholson. Lower left on this page is Serge Eisenstein; right is Agostino Borgato, character actor. These three portraits are examples of Mr. Grant's work.



But to be thoroughly satisfactory, this simple, direct naturalness must be observed in every detail of the photographic technique. If you use this method of posing your subject, your lighting should be equally simple. Obviously studied backlightings and catch-lights would be as thoroughly out of place as a full-dress suit on the golf links. But lighting should not only be simple, it should be used sparingly. The paramount thought in the photographer's mind should be not "how much light do I need?" but "how little can I manage with"? Of course, the temptation, when we are working by artificial light, is to be sure that we have plenty of illumination, and to use as many units as we have available, as if to show our mastery of lighting technique. This fallacy is as deeply rooted in the minds of many professional cinematographers and portraitists as it is in the minds of the amateurs; yet if you visit the sets presided over by the really great cinematographic artists, you will at once notice that they invariably use an

(Continued on Page 41)







A true son of a Cinematographer.



Gilbert Warrenton, Jr., and his mother.

A Professional Amateur Plans Unique Film

USUALLY, you hear the members of a cameraman's family complaining because the cameraman is so busy photographing other people that he neglects his own. Somewhat like the well-known cobbler whose children's shoes always need repairing.

However, no one will be able to say that about Gilbert Warrenton, A. S. C., one of Hollywood's best-known Cinematographers. As a matter of fact, Mr. Warrenton's young son, Gilbert, Jr., some day may well grow tired of being photographed so much. Either that, or he will want a camera set up in every room of his home, ready at all times.

Mr. Warrenton is like the fireman who spends his day-off in the fire station, for when his day's work is through at the studio he dashes home and relaxes by using his Filmo making personal movies. For variety, he picks up his Leica and makes unusual "stills." He declares that he really becomes quite rested by shooting several hundred feet of 16 millimeter pictures and a flock of stills after a long day at the studio.

But, getting to Gilbert, Jr. This young man was born December 27, 1930, and at this writing has been photographed more times than the ordinary individual in a lifetime. There is a reason.

Mr. Warrenton plans to make what should be one of the most unusual motion pictures ever placed upon a screen: a motion picture record of the growth and development of his young son. In other words, instead of having a book of snapshots taken from time to time, young Mr. Warrenton, when he reaches the age of fifteen years, will be able to go into the family projection room and there upon the screen see himself grow, as it were.

The first photographs were made when Junior was thirteen hours old. Daily since then his father has photographed a certain amount of footage of the baby. For the first two months of the baby's life his father plans to make daily shots. Then he will photograph him weekly for the next year. The next year will see him photographed twice a month. Then it will be limited to once a month.

"This film," says Mr. Warrenton, "will be cut and titled, and I feel that we will have one of the most priceless possessions that a mother and father could possibly have. Can't you imagine the joy ten years from now of seeing that baby practically growing on the screen?

"This cinematographic record of my son is not planned for any scientific reason. Merely to have as near a living picture of his growth as possible. I note that scientists are advancing the theory that a child's future may be foreshadowed by the motion picture camera. That idea, as advanced by experimenters, is to the effect that individual differences in capacity, emotional characteristics, personality traits and the like assert themselves early. There may be a lot to that, but what we are striving for and hope to have is just the most human and interesting motion picture one can have—the picture which shows the advancing steps in our child. Personally, I think it will be priceless not only to his mother and myself, but to the boy in later years when he gathers his own children about him and shows them this picture."



Mr. Warrenton photographs his son.



Making another shot.

Announcement...

In the March issue of the Cinematographer will be found a new department devoted to technical

LABORATORY PROBLEMS

This department will be conducted by

MR. EMERY HUSE, A. S. C.

Technical Editor of The American Cinematographer, and one of the recognized authorities on laboratory work. It is hoped that this department may become one of the most valuable features of this publication. If you have problems, send them in.

Filmo Topics

BELOW is the table of contents of the February issue of Filmo Topics, the very interesting monthly publication of the Bell & Howell Company. Copies may be obtained free by writing the Bell & Howell Company, at 1848 Larchmont Avenue, Chicago, Ill.:

Cover—Florida sunset boating scene, with Filmo operator.

FILMOS WHICH WORK FOR A LIVING—News photo page dealing with vocational uses of Filmo Cameras and Projectors.

"BRING OUT THE OLD ONES—Spend an evening with your films of years ago."

FILMING ALASKAN EXPLORATIONS—By Bernard R. Hubbard. The "Glacier Priest," head of the Department of Geology, Santa Clara University, California, tells of his Eyemo movie-making experiences on the Alaska Peninsula.

WINTER MOVIE MAKING—How to make the most of current cinematic offerings in the north and south.

THE LOG OF AN ANCIENT EYEMO—By M. E. Diemer, Ph.D.

TITLING YOUR FILMS—No. 5—Using Block Letters.

LIGHT—ITS PART IN FILMO PROJECTION—Article No. 14 of the "Facts About Filmo" Series, telling how four hair-like filmaments are used to produce the most brilliant of home movies.

Home Talkie Combination Invented by Chas. Capehart

A COMBINATION home set that can be used for recording of voice and sound in making of home talkies, reproduce the synchronized pictures, play phonograph records and tune in on broadcasting stations has been invented by Charles Capehart, of the Glee-Heart Record Co. It will soon be placed on the market to sell for about $300.

Local S. M. P. E. Elects

DR. DONALD MacKENZIE of the Electrical Research Products, Inc., was elected Chairman of the Hollywood Section of the Society of Motion Picture Engineers, at the January meeting of this branch. Emery Huse, of the Eastman Kodak Company, was elected secretary, and L. E. Clark was chosen as treasurer.

In addition to the above named members, the following compose the board of governors of the local branch: Peter Mole, of Mole-Richardson, who was last year's chairman; H. C. Silent of Erpi, and George Mitchell of the Mitchell Camera Corporation.

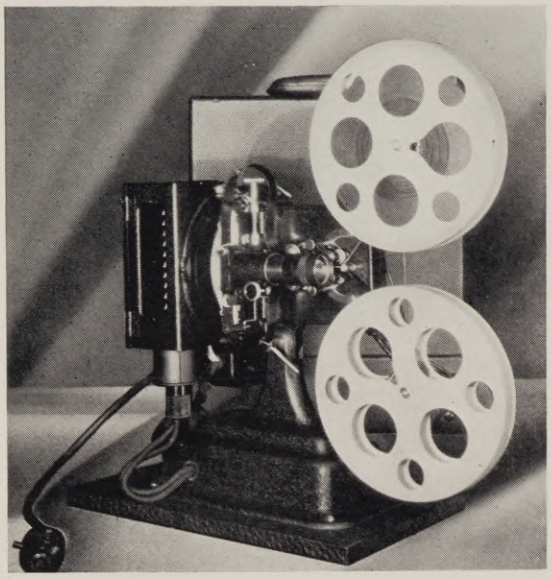
With the Spring meeting of the Society of Motion Picture Engineers slated to be held in Hollywood, the local section has much work laid out ahead and the members are already laying plans for the most active year since the Hollywood branch was organized. Dr. MacKenzie has many excellent plans for the work of the local section and the section looks for a banner year ahead.

British S. M. P. E. Holds First Meeting

THE British Society of M. P. Engineers, formed to supersede the London branch of the American body, has held its first meeting and discussed general plans. A constitution has been drawn up and the organization plans extensions both in its activities and in scope. Relations with the American S. M. P. E. will continue to be friendly.

The provision committee, which prepared the constitution, includes S. Rowson, A. S. Newman, Paul Kimberley, Leslie Eveleigh and others.

Victor Builds Projector For 250 Watt - 20 Volt Lamp



WITH the almost universal adoption of the 16 mm. film and motion picture projectors for practically all non-theatrical uses, intense screen illumination has become a feature of vital importance in the more highly developed equipments.

The Lamp manufacturers have expended every effort toward devising a Projection Lamp of the greatest possible efficiency. The latest accomplishment in this direction is the 250 watt - 20 Volt, T-10 size lamp which was just recently placed on the market.

This low voltage lamp can, however, be satisfactorily used only in connection with a special transformer for 100-120 Volt, 50-60 Cycle, A. C. operation.

The new Model 3-G Victor Cine-Projector has a special transformer built into the base, which permits the 250 Watt - 20 Volt lamp to be used with the utmost efficiency, and with maximum lamp life.

To provide for use of the 3-G Victor Cine-Projector in communities where 50-60 Cycle Alternating Current is not available, a "change-over" system of wiring has been utilized which permits the transformer to be cut out by removing one attachment plug and changing the location of another. The projector may then be operated on any 100-130 Volt Direct or Alternating Current. The No. 10 Victor Lamp Rheostat may also be attached to permit the use of the 165 Watt - 30 Volt, high intensity lamp.

Another feature of the Model 3-G is a highly perfected optical system which utilizes as much as possible of the light emitted by the source.

Mechanically, the 3-G Victor Cine-Projector is identical to the widely known Model 3, which embodies the following features: Perpetual safeguarding against "Jumpy" Pictures—Positive Film Protection—Protective ever-dependable Double Claw Film Movement—"Framer" for accurately centering image on screen—Rack-and-Pinion Focusing—Highly developed Super Optical System—Direct Gear Drive (no belts) with Clutch Control—Extreme Quietness—Great Durability—Many Operating Conveniences such as Built-in Rewind for Automatic Rewinding of one film while another is being shown, Reverse Action for running film backward, and Stop-Action for "Still" projection.

In appearance, the 3-G differs from the Victor Model 3 only in that it has, in place of a pedestal base, a receptacle base in which the transformer is housed. This new base adds beauty and character to the projector, making it a very attractive as well as highly efficient instrument.

Government Studies Motion Pictures As Business Aid

TO WHAT extent the American movie has "gone into business" as an aid in promoting operating efficiency, and the degree of success attending the use of such methods by industry, form the subject of a special study now being made by the Motion Picture Division of the Bureau of Foreign and Domestic Commerce.

At least 2,000 concerns in the United States, it is known, have used the motion picture for some business purpose. In other cases the ends sought are creation of good will through illustration of the firm's products or services. Safety and efficiency of plant operation are being promoted and better personnel relations secured by many firms through exhibition of educational films within the organization itself.

The Commerce Department through a questionnaire addressed to these 2,000 concerns is seeking to determine how extensively the films are being employed for these various purposes and how efficient in point of results they are found to be. With regard to the public use of business movies in particular, the Commerce Department wants to know from each firm the number of people viewing its films in the course of a year in schools, theatres, trade meetings, etc., how difficult it is to arrange for showings, and the places in which the showings are found to be most profitable.

The planning and control of motion picture campaigns for business purposes, technical problems of production and distribution, and methods of measuring the efficiency of the use of films in the different branches of business are also dealt with in the Commerce Department's questionnaire.

What the department finds out is expected to shed much light on the use and value of motion pictures in business, and help formulate plans for the most effective use of films. The experience record of past users of films in business will be of assistance, it is believed, not only in suggesting successful methods of procedure in securing best results with new productions, but also in helping to obtain a more extensive and productive use of films which may be already in use. A combined experience record in this field will also offer a standard by which the success of motion picture activities in general may be gauged.

Replies to the Commerce Department's questionnaire are already being received, and the Motion Picture Division expects to have the results of the study in form for publication within the next few months.

Advisory Committee Named

THE EXECUTIVE board of International Photographers, Local 659, has named a special committee of fifteen, of which Hal Mohr is chairman, to work out plans to secure for members of the organization every possible assistance in the alleviation of unusual conditions prevailing in the industry today and also to discuss and advise upon any other matters which may be presented to it by the board.

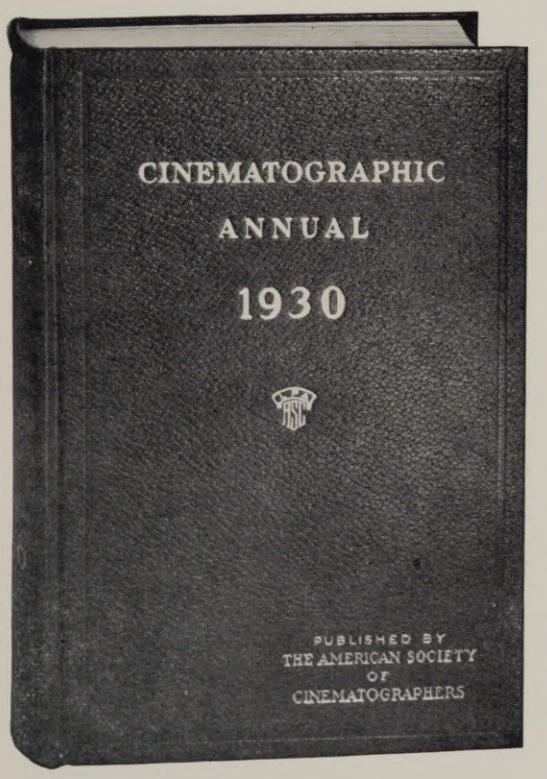
Asked by the board to make the selection the special committee has named John W. Boyle to accompany Vice-President Roy H. Klaffki and Business Representative Howard E. Hurd to the east coast for conferences with the presidents of the five International organizations represented in the studios.

Later the delegation of three will confer on pending matters with the International-Producers committee in New York.

The special committee of members is composed of the following:

John W. Boyle, Dan Clark, Arthur Edeson, Alfred Gilks, Roy Hunt, Ray June, Oliver Marsh, Arthur Miller, Victor Milner, Hal Mohr, Hal Rosson, John Seitz, Karl Struss, James Van Trees, and Gilbert Warrenton.

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Fig. 3

Lens Speed Chart

Values of light transmission (aperture area, speed) for given f values

f	% light transmission correct I	approximately correct II	Multiple Speed values standard scale approximately correct III
1.0	100 %	100 %	(1000)
1.5	44.44	44½	
1.8	30.86	30¾	
2.3	18.89	19	
2.7	13.71	13¾	128
3.0	11.11	11	
(3.16)	(10.00)	(10)	(100)
3.5	8.16	8	
4.0	6.25	6¼	64
4.5	4.93	5	
5.6	3.18	3 1/5	32
6.3	2.51	2½	
8.0	1.56	1½	16
9.0	1.23	1¼	
(10.0)	(1.00)	(1)	(10)
11.0	0.82	4/5	8
16.0	0.39	2/5	4
22.0	0.20	1/5	2
32.0	0.09	1/10	1

The above chart accompanies the article on Screen Definition on pages 12 and 13.

If any reader wishes reprints of these charts, write to the editor and we shall be pleased to mail them free.

●

An Interview with Frank Capra

(Continued from Page 20)

pictures will be better. Picture people seem to have the idea that a butler must have a voice of a certain quality. So they pick the butler by voice. I've heard a lot of butlers in my time, and I have yet to hear two of them with twin voices, if you get my meaning. But on the screen they all sound as though they were trained in the same school of elocution.

"The same with other characters. The voice, as long as the player can speak clearly enough to get across, should be forgotten. Just because a man plays the part of a gutter rat does not mean that his voice should be of a certain type. No two gutter rats sound alike. So why have them sound alike on the screen? Do you get my thought?"

We did, thoroughly. And, may we say here, that Mr. Capra touched a spot that has been a sore one with us. No wonder he has made successful pictures. He thinks intelligently.

And—just another angle to this business of picture making from this young man. It has to do with costs, and supervision.

"You ask me why Columbia has so many good pictures," said Capra in reply to said question. "Well, I think the chief reason is because they give a director such a free hand in his work. They demand quality and results. But they give you a chance to produce them. And this makes for lower cost, also. For, a director realizes he is more or less on his own as far as the picture goes. If he can give a good picture at a low cost he has scored doubly. Naturally, if he is using his head, he will see that there is no waste."

Rather a good thought there for the industry.

●

Order Your Annual NOW!

Mexico

(Continued from Page 25)

down through the water and became imbedded in the earth beneath, anchoring the rafts. This process went on until now, as you can see from accompanying photographs, this has become one of the wonders of the world. Truly magnificent is it all. As twilight falls and you are floating along in one of the little boats you suddenly hear the soft tinkle of a guitar. Then the sound of a melodious voice floating through the evening air, and around a bend you see a little restaurant boat approaching. The boat pulls up alongside you and you may dine and wine to your heart's content while the entertainers softly sing and play the Spanish airs that are so delightfully appropriate in that spot. Romance is in the very air.

Step for a moment into the ruins of the convent at Acolman. From the outside apparently just ruins. You walk with a feeling of reverence to the interior and suddenly you find yourself in a chapel that for sheer, exquisite beauty takes your breath away. Paintings that were done by masters ages past and which still retain the magnificent colorings of the day they were done. An altar covered with solid gold a quarter of an inch thick, beaten there by artists of a kind and skill unknown today. Crucifixes of solid gold. And over all an atmosphere that makes one realize that there is such a thing as religion, such a thing as a God. Through the ages these priceless treasures have been there, unmolested by marauders, no matter what government was in control. A testimony to the greatest element in life—religion.

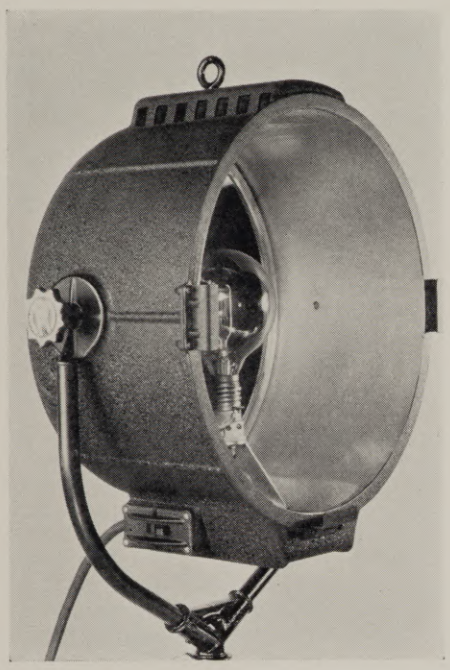
As we arrived in Mexico the great annual pilgrimage to Shrine of Guadalupe was in progress. As we drove along the country roads we saw thousands upon thousands of worshipers trudging along on foot. Some of them had walked hundreds of miles. Some were crippled, were dragging paralyzed legs behind them as they slowly and painfully made their way to the greatest of all Shrines. There was a certain something about this implicit faith that stirred you within, that made you wonder why so many people scoff at religion. And on December twelfth when the hundreds of thousands of pilgrims climbed the hill to the foot of the Shrine—well, to say it was inspiring is putting it very mildly. That is Mexico, however. Deeply religious.

Some of the customs are unusual. Take, for example, at the town of Pueblo on a Sunday afternoon. The military band took station in the bandstand in the main plaza of the town. Dreamy, Latin music mixed with stirring military marches and blood-quickening Spanish dance numbers. Everybody in the town, dressed in his or her Sunday best, was out for the afternoon entertainment. Beautiful, dark-eyed Senoritas, with the ever-present Duenna, strolled slowly up one side of the plaza. Gay, and dashing young Dons strolled down the other side of the plaza. Always the girls and boys apart. Here and there a guarded smile from a Senorita as she noticed a young man who struck her fancy. Just a smile, however, of the guarded sort. No flirtation such as we know it. Perhaps, only a suggestion of a glance, which would start the heart a beat faster in some young Mexican. Charm, romance, sweetness—you find them all in this marvelous country called Mexico.

Czechs Restrict Foreign Films

THE Association of Czechoslovak Exhibitors recently created a committee to work in connection with the distribution of imported sound films. It will be the committee's task to examine these sound films to determine whether or not they are objectionable from a political standpoint and to regulate the exhibition of foreign dialogue films in Prague. The committee has decided that the maximum number of German films to be first-run simultaneously in Prague should not exceed three or four.

"Integral Inkies"



MOLE-RICHARDSON, Inc., original designers and manufacturers of incandescent equipment for set illumination, announce a new product, the Integral Inkie. This new lamp is generally conceded by those experienced in set lighting to being the most satisfactory unit of its type ever offered for set lighting purposes.

With the recent introduction of noiseless recording, a demand has arisen for lighting equipment which is 100 per cent noiseless. The Integral Inkie meets this demand, since it has been so designed that there are no parts used in its construction which produce expansion noises when the equipment is switched on and expanding with the heat from the mazda globe.

The Mole-Richardson engineers have designed the head of the Integral Inkie of one single aluminum alloy casting. The housing, mirror dome, ventilator, light baffles, lamp trough, switch box, and trunion plates are one integral piece. This lamp head is cast from a special silicon aluminum alloy developed by the Aluminum Company of America and known in the trade as No. 43. Castings from this alloy differ from ordinary aluminum castings, in that, if they are bent or deformed they can be easily straightened, and so in case lamps of the new type are damaged by falling from the parallels or by being knocked over, they can be repaired by ordinary workmen without excessive cost.

Another feature of this alloy is that it is one of the lightest of the aluminum alloys, it being 7 per cent lighter than those customarily used.

The few additional parts to this lamp, such as the slide rods, mirror ring, etc., have been designed to have unrestricted movement which allows them to expand freely without producing any sound.

The Integral Inkie has these advantages; it is 100 per cent noiseless from the time it is switched on. It is sturdy and strong, the total weight of the complete unit being 66½ pounds. It is a convenient lamp to handle when rigging the set. Mole-Richardson already have the 18-inch and 24-inch Sun Spots of the new type of production.

Nat'l Supply Installing New Type Lighting

NATIONAL Theatre Supply Co. is installing a switchboard, said to be the only one of its kind west of Chicago, in the new Los Angeles theatre.

This switchboard, which controls the lighting of the entire house, is a new type tube-control Westinghouse electric, and is being installed at a cost of $34,000.

●

All Paramount Shorts Will Be Made in East

DESPITE reports that Paramount will make some of its 1931-32 short product at the Coast it is understood that all short production work will be done in the East. One report, which has been denied, had it that James Ryan would produce shorts for Paramount at the Coast.

●

Columbia Set On Television

WHILE he says that no one knows "how soon television is coming or just how it is to be used," when the time comes, Columbia Broadcasting System will be ready for it, President William S. Paley told directors in his annual report. The company, he said, has been licensed by the Federal Radio Commission, and "apparatus is being loaned to us by RCA."

●

Stereoscopic Effect Devised By Inventor

ELWIN L. PETERSON, a Hollywood inventor, has devised a new method of making motion pictures look realistic by using the principal of the old-fashioned stereoscope, which had a picture for each eye of the observer with the two pictures merging into one and resulting in a three dimensional depth.

To obtain this effect, Peterson uses two reflectors with a single lens, and talkies, as well as stills, may be shown this way, it is claimed.

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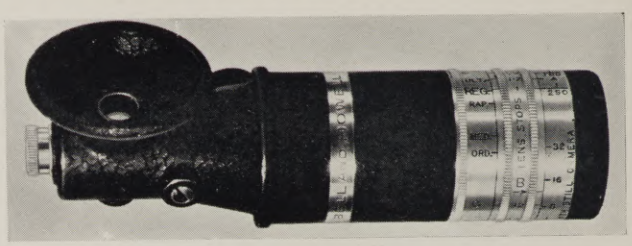
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Bell & Howell Announce Photometer For Still Cameras



THE BELL & HOWELL Still Camera Photometer, just announced, is an exposure meter which should be warmly received. It is basically the same as the B. & H. Photometer for Filmo Movie Cameras which has proved so popular, but is especially calibrated to meet the requirements of the still photographer, whether he is a beginner or a highly advanced amateur or professional.

The essential features of the original Photometer, including its convenient size, its light weight of about five ounces, and its three dials are all retained. There is the same simple procedure of looking directly through the instrument at the object to be photographed, matching an electric filament with the brilliancy of the subject, and then making an exposure reading direct from the dial system without guess work or calculation

As in the movie Photometer, the exact exposure of any portion of a subject can be readily determined, so that the range of contrasts of any view can be arrived at with exactness.

The Bell & Howell Still Camera Photometer is calibrated to a range of shutter speeds and exposure times from 32 seconds to 1/1000 of a second, and to lens stops of from F 1 to F 32.

A tremendously important factor in still photography is that the effective photographic speeds of the different types of plates and films vary much more than the films used for motion picture work. Therefore, a dial has been calibrated in this new Photometer so that the instrument can be quickly set to compensate for whatever speed of plate or film may happen to be used. This same dial also carries another set of calibrations to facilitate quick compensation for filters of various strengths. The Photometer obviously covers all lenses, all plates or films, and all conditions of illumination that are ordinarily met with in still work.

●

Laco Lights at Electric Club of Southern California Meeting

AS THIS issue of the Cinematographer goes to press we receive word of an unusually interesting meeting of the Electric Club of Southern California, to be held at the Biltmore Hotel, Los Angeles, on February 2. Two subjects of interest were on the program. One was "Light and Vision" by Dr. Arthur E. Hoare, President of the Los Angeles County Association of Optomotrists. The other was on "Flood Lighting" by G. M. Rankin, Lighting Supervisor of the Southern California Edison Company.

Through the cooperation of Scott Betts, Westinghouse representative, William Johnson, chief electrician at the RKO Studios, and the courtesy of Frank Arrousez and Pete Herrod of the Lakin Corporation, 69 eighteen-inch spots and one 36 inch spot with 5 KW, were to be furnished by the Lakin Corporation. These Laco lights were to be arranged to show the most modern methods of flood lighting and were to throw three colors, straw, magenta and blue light at intervals of one minute. Another feature was to be a demonstration of magnetic tube control of lights. Members of the Electric Club compose the biggest representatives of General Electric, Western Electric, Westinghouse, Grabar and Illinoise Electric on the West Coast, as well as Illuminating Engineers and electric engineers of the various western plants.

Portrait Pitfalls

(Continued from Page 33)

absolute minimum of light and of lighting units. Perhaps the most outstanding exponent of this technique is that great artist, Hal Mohr, A.S.C. It has been my good fortune to play in several pictures which Mr. Mohr has photographed, and each time I have been amazed anew at his ability to coax the maximum effectiveness out of the minimum number of lighting units—I almost said, his uncanny ability of not using unnecessary lighting equipment!

This same technique can be used with even better results in portrait photography. Without using either extremely fast lenses or super-sensitized emulsions, I have found that two ordinary incandescent units are all that one needs for any purpose. And both of them are ordinary broadside units; I have never owned a spotlight, for I have yet to encounter a situation in which one is really necessary. In fact, there are many times when a single unit is sufficient. Normally, I simply place one light fairly close in on what a cinematographer would call the "hot" side, and move the other quite far out on the other side, adjusting these distances until the correct balance is reached. This is vastly simpler, naturally, than having to bother with a larger number of units, playing around with tricky catch-lights, and so on; and, which is more important, it gives a more natural effect—a picture that is "easier to look at."

Another pitfall into which the portraitist is all too apt to tumble is the matter of diffusion. Now, a mild degree of diffusion is infinitely desirable in a portrait. It gives a far more natural presentation of a person than a wiry-sharp picture would, for we do not see thing with the same exaggerated sharpness that a Cooke or Tessar lens does. On the other hand, however, we do not normally see things in the fuzzy way that diffusing discs and gauzes portray them. Therefore, if we are striving after naturalness in our portraits, we cannot secure a natural diffused effect by the use of an anastigmat with discs or gauzes intersposed to break up the image. The only satisfactory method is to use a true soft-focus lens—of which there are many on the market—which sees things with the same natural softness (a thing quite distinct from fuzziness or out-of-focus blur) that our eyes do. In that way we can get an image which is really in correct focus, and yet has the diffuse softness which makes our picture natural, and "easy to look at."

●

Amateur Movie Making

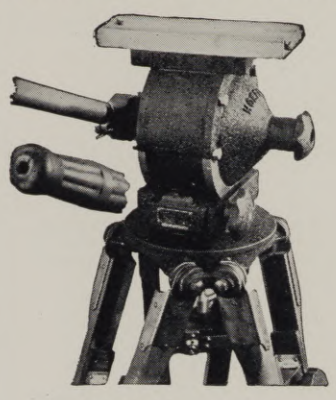
(Continued from Page 30)

Composition

The average amateur seems to forget that there is such a thing as composition. He usually just lifts his camera and shoots. Sometimes he secures a beautiful result. Most of the time he doesn't. A little care would eliminate most of this failing. Go to the theatres and watch closely the manner in which the professional cinematographer frames his every shot, especially the exteriors. Study the work of some of these master craftsmen. It will be well worth your time. You can learn more in one evening at a picture theatre than you can learn in a month from a book—if you really apply yourself.

Most amateurs neglect this matter of properly framing a picture with the result that they sometimes become discouraged when they see the work of another amateur who has studied this feature. A little time spent in looking over the subject before you shoot and you will find the most beautiful angle. At least, give this matter some thought before you go afield again with your Filmo, Victor, Cine-Kodak or what ever camera you are using. All of us cannot be artists, true. But we can at least try. And this writer believes that the real joy of making 16 millimeter pictures is the satisfaction of knowing that you have done a good job.

TRUEBALL TRIPOD HEADS

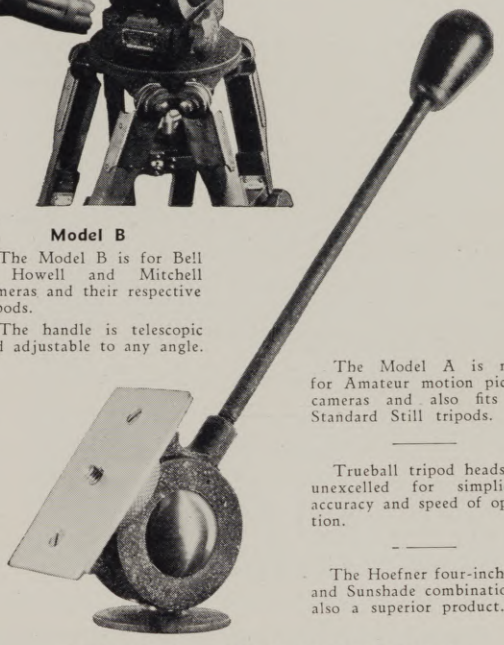


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New Carbon Saving Device From Golde Manufacturing Co.

A TIMELY development is an economical new carbon saver being offered by the Golde Manufacturing Co. of Chicago, projection engineers and manufacturers of projection room equipment.

The new carbon saver, it is said, allows the use of the 9 mm. stubs heretofore discarded. The 20-inch, 9 mm. carbon used in high intensity reflector arcs, now burned for about seven reels' running time, costs approximately five cents per reel. The waste, about 35 per cent in the form of a stub impossible to burn in that type of lamp, may with this new carbon saver be used for two more reels, making a saving of 30 per cent.

This saving, the company states, is accomplished with very little effort on the part of the projectionist.

Using two carbon savers, one lamp may be continually burned for months with the subs previously wasted. There is no drilling or messy handling, no cutting of carbons, no shaving or filing.

The burnt end of the carbon is inserted in the Golde carbon saver, twisted in to a special threaded taper hole and rolled on a flat surface to secure perfect alignment. For added safety a special screw is provided which draws up stub into saver. Thus the carbon saver and carbon become one straight integral length which is inserted in the same manner as regular carbons.

There is nothing on the carbon saver to wear away, if care is taken to see that it does not burn away. That is merely a matter of setting the running time for the average length carbon stub, the company claims.



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attention

The pictorial section of the next volume of the Cinematographic Annual is being compiled. Anyone wishing to contribute prints for this section may send them in now for consideration.

Even in South Africa



HERE we see a group of South African natives making their own photographic records. T. J. Connolly, S. A. C. Bureau, Palace of Justice of Pretoria, taught these aspiring young men the art of using the Filmo, and now they are shooting all over the place.

Hold Everything!

GEOROVESTI, RUMANIA—At the first showing of motion pictures here, nearly a thousand peasants, none of whom had ever seen a movie before, got frightened and stampeded when the screen suddenly flashed a locomotive roaring straight down the track toward the audience. Twelve persons were trampled in the rush for exits.

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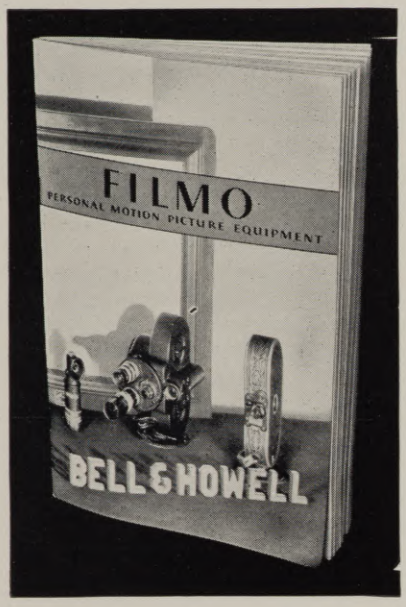
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New Filmo Catalog Valuable Textbook For Amateur Movie Makers



THE 1931 Filmo Catalog, just issued by the Bell & Howell Company, might well be termed a popular textbook on amateur movie making.

In this new book are to be found intensely interesting discussions on such subjects as why color filters are used, the principles of exposure, and when and why to use a tripod. Among other topics treated in a thoroughly popular but authoritative manner are artificial lighting for indoor movies, titling, editing, and screening. A discussion on speed lenses is particularly valuable, as is also a short but meaty section on the Filmo optical system for Kodacolor projection.

The catalog's comprehensive listing and description of amateur movie making products, including many new and unique accessories, is sure to be of definite value to anyone who owns or expects to own a 16 mm. camera or projector. The range of products listed under the Filmo banner is so extensive that the catalog will be kept for reference from the standpoint of its unparalleled completeness alone.

Among the new products included is the Filmophono, a portable 16 mm. talkie reproducer just announced by Bell & Howell. The Filmophone, we are informed, is meeting with an enthusiastic reception in the industrial, educational and home fields.

We must not fail to state that the book is unusually well illustrated. A number of full-page cuts are used to good effect. The arrangement of material is noteworthy, and makes for quick reference.

Here is a catalog which is sure to prove of unusual value to the amateur movie maker. It will be sent free on request.

One of the features in the
MARCH CINEMATOGRAPHER
will be an article on
The Pedagogy of Visual Education
by Professor Herbert Sorenson
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An Eyemo in the Arctic

TO THE MANY striking achievements of the Bell & Howell Eyemo semi-professional cameras must now be added the outstanding and almost indispensable part which one of them recently played in the filming of an arctic picture which was turned over to Paramount for release.

This picture is based upon the lives of North Atlantic fishermen engaged in the hazardous sealing industry. It was taken by an expedition under the direction of Varick Frissell, youthful producer and explorer, and it is interesting to learn that the Eyemo which served the expedition so notably, was included in the company's $30,000 worth of movie equipment almost as an afterthought.

The work of the sealers who figure in the picture is done on the arctic ice floes drifting south each summer off the coast of Labrador. These floes consist of broken fields of ice, heaving and twisting as the great Atlantic swells and rolls underneath.

The hunters approach the seals rapidly, on the run, often leaping from ice cake to ice cake, and members of the Frissell expedition had to follow on the sealers' course as quickly as possible if they were to capture vivid and realistic pictures.

It was quickly discovered that with the ice so broken up as to challenge even the agility of the light-footed sealers, it was impossible to accomplish the necessary rapid transportation of standard camera equipment, due to its weight and bulk, but the light Eyemo, with its tripod attached, could be swung over long open leads of water and caught without impairing its ability to photograph a picture of standard production quality.

As the hunters were running towards the seals, members of the Frissell expedition would follow. When open water was encountered which defied leaping without the use of all fours, the Eyemo would be grasped by the end of the tripod, and, by a long pendulum swing could be sent flying over the water into the arms of another member of the company, and so relayed up the line into the center of action, where it was quickly put to work.

It was inevitable that sooner or later some one would miscalculate in the performance of this ritual. So it came about that one bright day the Eyemo found its way to the bottom of the ocean, but not before it had succeeded in obtaining some of the most valuable shots made by the members of the expedition. Scenes of action, we are told, in the midst of the vast seal herds, which could never have been secured with any other camera, are now a part of the Frissell picture, thanks to the Eyemo.

●

Too Many Pictures

"HOLLYWOOD makes too many pictures," Jesse Lasky, producer, told members of the Academy of Motion Picture Arts and Sciences at a recent meeting. "So many theatres have to be kept supplied with changing programs that the total income isn't large enough to stand the negative costs of the individual pictures." There aren't enough good stories in the world to supply the annual demand, he asserted, declaring that whereas a stage producer need only present one to five plays a year, the motion picture producer must meet release dates with a production a week. "Hollywood has too many 'yes' men, but not enough creative artists who can do worth-while work and meet the producer half way by realizing that the cost of any given picture has to be kept within the sum that it will draw to the box-office in competition with all other pictures," he asserted.

●

The directors of the Copenhagen legitimate theatres have decided upon a resolution to the effect that within the limits of their contracts artists employed on their stages will not be allowed to act in sound-films.

Tanar Equipment Gives Excellent Results for Douglas Fairbanks

LEN H. ROOS, Vice President and General Manager of the Tanar Corporation, manufacturers of portable sound-on-film recorders, of Hollywood, reports that the first film made by Douglas Fairbanks on his world tour has been received, and Roos and all who have seen and heard it are wildly enthusiastic over the results obtained by Henry Sharp, A. S. C., who is Mr. Fairbanks' cinematographer on this long trip.

The first film shot was at Hawaii, and some very beautiful results were obtained. The sound track, according to those who heard it, is admirable, and Mr. Sharp sent word that it is as simple to operate as an ordinary radio.

Incidentally, Mr. Roos reports that the Tanar plant is running full blast with seven orders for portable recorders being worked on and future business looking exceedingly excellent. Mr. Roos says that the so-called depression period has not been a depression period for his concern. His experimental department has been hard at work for some time, and within a very brief time he says his concern will have an important announcement to make regarding a separate recorder and D. C. synchronous motors. That is all he says about it at the present, but indicates that next month he will make his announcement.

●

Boothe Company Brochure

ONE of the most attractive brochures that has come to our attention for some time is that of the Boothe Company, Los Angeles, dealers in aluminum and aluminum alloys. The booklet, designed by the Boyd Company, advertising experts, tells the uses of aluminum and its alloys in modern industry in an attractive and interesting manner. For those who wish to know more about the possibilities of aluminum in any industry, we suggest that you write to the Boothe Company, 1400 South Alameda Street, Los Angeles, for this brochure. It will be mailed to you at once.

●

New Apparatus

A MUNICH firm, the Regulaphon G.m.b.H., is reported to have brought on the market a new sound-on-disc apparatus. The advantage of this new apparatus is reported to be a new correcting process by which synchronization is obtained without changing the number of rotations either of the projector or the disc support. The new set, it is claimed, has been installed in a cinema in the suburbs of Munich and is giving satisfactory results. The apparatus is low-priced, and it is expected that a public demonstration will be made in the near future.

●

The Sascha-Film Company, of Vienna, is reported to be planning film production on a large scale, with the co-operation of the Felner-Somlo Company, of Berlin. Another sound-film studio is being constructed in Sievering, near Vienna, which will be fitted with the newest equipment, and a Tobis recording apparatus. The annual production will comprise ten new films.

●

Frank Woods Resigns

THE RESIGNATION of Frank Woods, Secretary of the Academy of Motion Picture Arts and Sciences, was tendered to and accepted by the Board of Directors of the organization at its meeting of January 12.

Mr. Woods, a pioneer writer and producer, has been Secretary of the organization since its very inception, having been reelected yearly. He is leaving the office of Secretary in order to pursue writing interests that the responsibilities of his position have kept in abeyance.

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